

RESULT
OF
ASTRONOMICAL OBSERVATIONS

MADE AT
THE HONORABLE
THE EAST INDIA COMPANY'S OBSERVATORY
AT MADRAS

BY
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ASTRONOMER TO THE HONORABLE COMPANY.

VOL. II.
FOR THE YEARS 1832 AND 1833.



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P R E F A C E.

MORE convinced than ever of the propriety of giving the *result* of Astronomical Observations, in preference to publishing the observations in an unreduced state, I have (with the permission of the Right Honorable the Governor in Council of this Presidency) given in the following pages the result of all the Astronomical Observations which have been made in this Observatory in the years 1832 and 1833, and have forwarded to England manuscript copies of the rough observations to be deposited in the Honorable Company's Library. The plan adopted upon the present occasion is as nearly as possible the same as that followed in Volume I. for 1831; since the publication of the latter work I have been favored with part 5 of the Greenwich Observations for 1831, containing the result of the observations given in parts 1—4 of that year; in one respect (that of giving the result of *each* observation instead of the *mean* result) I should much prefer to have followed the Greenwich plan, but the inconvenient delay I have experienced in printing (arising partly from want of type) would have rendered it impossible to print the additional number of pages which would be necessary without getting very considerably in arrears; to accomplish even the present work in ten months, I have been compelled to employ two separate printing establishments, and from this cause have been obliged to introduce a different size type and a second system of pageing, but the ill appearance thus introduced, will I hope be considered sufficiently atoned for, by my being enabled to publish the work 4 or 5 months earlier than I otherwise should have been able to do. The observations with the Transit Instrument have been somewhat interfered with by the unequal wear of the pivots (which has rendered it necessary to have them returned and Steel Collars applied over the present ones of Bell Metal), and by the instability of the Meridian Marks: the result of these casualties is, that the accuracy of half a tenth of a second of time, which at commencing the Superintendence of this Observatory, I had vainly promised myself to attain, is forfeited in *some cases* to double and treble this amount; notwithstanding this, the observations will I imagine be found to possess a very useful, if not a valuable degree of accuracy:

A tolerable opinion of their relative accuracy with regard to that attained at other Observatories can be formed by the following table; exhibiting a *Comparison of the Right Ascension of several Stars which have been frequently observed at Madras with their places observed at the Observatories of Greenwich, Cambridge, and Königsberg.*

NAMES.		Right Ascension, January 1, 1832. Madras.			Difference from Madras.			REMARKS.
					Greenwich.	Cambridge.	Königsberg.	
		<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	
16 Ceti	<i>a</i>	0	35	9,29	— 0,02	— 0,02	.....
13 Arietis	<i>a</i>	1	57	43,22	— 0,05	— 0,02	— 0,03	
92 Ceti	<i>a</i>	2	53	30,36	— 0,04	+ 0,03	— 0,01	
33 Persei	<i>a</i>	3	12	22,05	+ 0,09	+ 0,09	+ 0,25	
87 Tauri	<i>a</i>	4	26	17,31	+ 0,05	+ 0,04	+ 0,04	
13 Aurigæ	<i>a</i>	5	4	17,36	+ 0,07	+ 0,09	+ 0,14	
58 Orionis	<i>a</i>	5	46	4,74	+ 0,05	+ 0,07	+ 0,01	
9 Can. Maj.	<i>a</i>	6	37	44,63	— 0,08	+ 0,03	0,00	
66 Geminorum	<i>a</i>	7	23	52,10	+ 0,08	+ 0,08	.....
10 Can. Min.	<i>a</i>	7	30	30,29	+ 0,06	— 0,05	— 0,02	
78 Geminorum	<i>β</i>	7	35	1,56	+ 0,04	— 0,07	— 0,01	
30 Hydræ	<i>a</i>	9	19	20,01	— 0,04	— 0,02	— 0,15	
32 Leonis	<i>a</i>	9	59	25,11	+ 0,03	— 0,05	— 0,06	
50 Urs. Maj.	<i>a</i>	10	53	17,37	+ 0,09	+ 0,06	+ 0,06	
94 Leonis	<i>β</i>	11	40	29,21	— 0,03	— 0,08	— 0,10	
67 Virginis	<i>a</i>	13	16	21,25	— 0,11	+ 0,01	— 0,04	
16 Bootis	<i>a</i>	14	8	0,04	+ 0,06	+ 0,08	+ 0,07	
36 Bootis	<i>ε</i>	14	37	39,00	— 0,03	+ 0,05	.....
9 Libræ	<i>a</i> ²	14	41	35,97	— 0,05	— 0,01	— 0,04	
5 Cor. Bor.	<i>a</i>	15	27	01,65	— 0,00	+ 0,01	0,00	
24 Serpentis	<i>a</i>	15	35	59,95	— 0,02	+ 0,02	+ 0,01	
1 Ophiuchi	<i>δ</i>	16	4	33,03	— 0,08	— 0,15	.....
21 Scorpii	<i>a</i>	16	19	7,26	— 0,17	— 0,07	— 0,04	
55 Ophiuchi	<i>a</i>	17	27	8,42	— 0,03	— 0,02	— 0,09	
3 Lyræ	<i>a</i>	18	37	15,13	+ 0,01	— 0,08	— 0,02	
10 Lyræ	<i>β</i>	18	43	52,78	+ 0,01	— 0,10	.....
53 Aquilæ	<i>a</i>	19	42	35,23	— 0,01	— 0,03	— 0,02	
60 Aquilæ	<i>β</i>	19	47	3,72	+ 0,02	— 0,07	+ 0,03	
6 Capricorni	<i>a</i> ²	20	8	43,71	— 0,03	— 0,05	+ 0,04	
50 Cygni	<i>a</i>	20	35	42,48	— 0,02	+ 0,06	— 0,03	
22 Aquarii	<i>β</i>	21	22	42,68	— 0,14	— 0,01	.....
34 Aquarii	<i>a</i>	21	56	9,24	+ 0,03	— 0,01	0,00	
54 Pegasi	<i>a</i>	22	56	23,93	+ 0,01	— 0,08	— 0,02	
21 Andromedæ	<i>a</i>	23	59	43,19	+ 0,01	— 0,05	— 0,06	

The observations with the Mural Circle have proceeded without any interruption, and the results *inter se*, are as accordant as any observations

N. B.—The Catalogues of Cambridge and Königsberg are derived from Vol. V. Page 17 of the Cambridge Observations, save that the former has been *diminished* 0,10s. and the latter *increased* 0,07s. to reduce them to the Equinoctial Point assumed in the Madras and Greenwich Catalogues.

of this nature will permit; in computing the Parallax of the Planet Mars where a comparison between the Madras, Cape of Good Hope, and St. Helena observations has been instituted; two singular cases of discordance had led me to suspect an error of large amount in one set of divisions of the Madras Mural Circle; but on examining the divisions by means of two Collimators, I am enabled to state, *that the error of division is confined to very allowable limits, and may possibly extend to a very great degree of accuracy.* The observations made out of the meridian are not so numerous as I could wish, this has mostly arisen from the want of a building to shelter the observing Telescope from the wind; on this account the transit of Mercury over the Sun's disc in May 1832, was but imperfectly observed, and several occultations have been lost; in short I cannot but consider the Observatory incomplete from the want of a fixed Instrument for observing objects out of the meridian; hitherto for this purpose I have employed the 5 feet Achromatic by Dollond, mounted upon Smeaton's plan; but the utmost accuracy attainable with this sort of Instrument falls far short of that accuracy which the present state of practical Astronomy demands. The observations on the meridian have with but few exceptions been made as heretofore by the Assistants, who are natives of high *caste*; and those out of the meridian for the most part by myself: of the abilities of the Native Assistants as observers I entertain the highest possible opinion, and as computers, they possess a very serviceable degree of accuracy and despatch, notwithstanding which the reduction of the observations has for the most part been performed by myself, having trusted nothing of importance to the native computers without a strict examination or a recomputation.

With regard to the methods of reduction and finding the Index Error, &c. the plans I have adopted differ in no respect from those employed at the Greenwich Royal Observatory, which were I believe devised by Mr. Pond the present Astronomer Royal, to whom at least I am indebted for them: In employing the Greenwich Catalogue as my Zero point, it may not be amiss for me here to record my opinion, that the Greenwich Transit Observations are at present excelled by none, and the observations derived from the two Mural Circles (due as much to the judicious way in which their results are combined, as to the superior excellence of the Instruments) are very superior to any yet published observations.

It now remains for me to say a word or two with regard to the arrangement of the work. Having experienced considerable delay on the part of the printer in the execution of Volume I. I commenced printing the present work on the 20th December 1833, ten days before the observations constituting the results were completed; and about as many months before the completion of the computation; from this cause, circumstances (which have arisen in the course of computation and printing) have compelled me to deviate from the straight forward course of arrangement I otherwise could wish to have followed; my object however has been to render the work complete in itself, and forward in a degree however small the cause of Astronomy.

T. G. TAYLOR,

H. C. ASTRONOMER.

OBSERVATIONS MADE WITH THE TRANSIT INSTRUMENT.

THE Intervals between the wires at the beginning of the year 1832, is assumed to be the same as that determined at Page 6, Vol. I for 1831 ; there hold good up to 18th January when the whole set were broken, and a new set put in by my Assistant Anuntacharyer ; (being absent myself at the time on other duty in Calcutta) ; from 50 Observations between the 18th and the 23d the Equatoreal Intervals were found to be :

from 1st wire to centre.....	54 ^s ,462
2d	27,294
4th.....	27,438
5th.....	54,985

these wires were I imagine put in with bad varnish, for on the 23d January they were again found broken ; on this occasion Mr. Law (of whose skill and abilities to perform this or any other job which he may undertake I have the highest possible opinion) applied a new set ; from the mean of 70 Observations the Equatoreal Intervals were found to be :

from 1st wire to centre.....	54 ^s ,400
2d	27,280
4th.....	27,302
5th.....	54,750

On the 8th August, I found the 1st and second wires bent in consequence of which I put in a new set of silk lines ; when from 70 Observations of Stars situated near the Pole, the Equatoreal Intervals were found to be :

from 1st wire to centre.....	54 ^s ,988
2d	27,566
4th.....	27,352
5th.....	55,021

On the 9th November the following note appears in the Transit book.
 “ Found the moveable wire had been caught by the varnish which secured the fixed wires, to remedy this I filed a groove to contain the varnish and put

in a new set of wires" from 70 Observations the Equatoreal Intervals were now found to be :

from 1st wire to centre.....	54°,643
2d	27,323
4th.....	28,128
5th.....	55,281

In the month of May 1833, being desirous of ascertaining if the wires remained stable; from 72 Observations of Stars situated near to the Pole I found the Equatoreal Intervals to be :

from 1st wire to centre.....	54°,619
2d	27,357
4th.....	28,071
5th.....	55,121

On the 12th May A. M. the following note appears in the Transit book. " The centre wire appears to have shifted its position since the observations of last night" and on the 13th " fearing that by reason of the hot land wind the centre wire might have become loosed, which however was not apparent I applied fresh varnish (tincture of opium) to the ends of all the five wires," from the observations of several Stars situated near to the Pole the Equatoreal Intervals were found to be :

from 1st wire to centre.....	54°,961
2d	27,618
4th.....	27,878
5th.....	54,924

On the 23d of August by reason of very heavy rain a few drops of water had leaked through the roof and falling upon the eye end of the Telescope, had bent two of the wires, in consequence of which I put in a new set; from 36 Observations of Stars situated near to the Pole the Equatoreal Intervals were found to be :

from 1st wire to centre.....	55°,420
2d	27,896
4th.....	27,374
5th.....	54,594

Hence to reduce observations made at the five wires to the centre wire, it becomes necessary to apply the following corrections :

1832—From January 1st to	January 28th....	+	$\frac{.061}{\sin. N.P.D.}$
January 18th —	January 23d	—	$\frac{.133}{\sin. N.P.D.}$
January 23d —	August 8th....	—	$\frac{.074}{\sin. N.P.D.}$
August 8th —	November 9th....	+	$\frac{.036}{\sin. N.P.D.}$
November 9th —	End of the year....	—	$\frac{.288}{\sin. N.P.D.}$
1832— „ November 9th — 1833 May 12th....		—	$\frac{.243}{\sin. N.P.D.}$
1833— „ May 12th — August 23d		—	$\frac{.045}{\sin. N.P.D.}$
August 23d —	End of the year... +		$\frac{.270}{\sin. N.P.D.}$

In the absence of any cause which can explain why the Equatoreal Intervals in November 1832 differ from those in May 1833, I have employed between the

9th of November and 31st December 1832..	—	$\frac{.288}{\sin. N.P.D.}$
1st of January — 1st March 1833..	—	$\frac{.266}{\sin. N.P.D.}$
1st of March — 12th May 1833..	—	$\frac{.243}{\sin. N.P.D.}$

We will now examine the observations for the determination of the value of the Micrometer screw which it will be recollected was found but approximately in the year 1831; for this purpose the following are the *Intervals of time which the Pole Star took to pass over 2 R. 0 D. 1 R. 50 D. &c. to the East and West of the centre wire.*

East of the Centre Wire.					West of the Centre Wire.			
	R. D. 2 0	R. D. 1 50	R. D. 1 0	R. D. 0 50	R. D. 0 50	R. D. 1 0	R. D. 1 50	R. D. 2 0
	m. s.	m. s.	m. s.	m. s.	m. s.	m. s.	m. s.	m. s.
1832								
May 16	.....	2 5,5	1 23,5	0 44,5	0 39,5	.....	.....	.....
17	2 45,0	2 4,0	1 22,5	0 42,0	0 41,5	1 23,0	2 5,0	2 46,0
26	.....	.....	.....	.....	0 41,5	1 22,5	2 5,0	2 46,0
29	2 47,0	2 4,0	1 22,0	0 41,5	0 40,0	1 21,0	2 1,0	2 45,0
June 9	2 46,0	2 4,5	1 23,0	0 41,5	0 41,5	1 23,5	2 4,5	2 46,0
November 16	2 46,0	2 4,5	1 22,0	0 40,0	0 41,5	1 23,0	2 5,5	2 48,5
17	2 45,5	2 4,5	1 22,0	0 42,0	0 40,5	1 23,5	2 6,0	2 47,0
22	2 49,5	2 5,5	1 23,5	0 42,5	0 42,5	1 24,5	2 5,0	2 46,5

MADRAS OBSERVATIONS.

1832	m.	s.	m.	s.	m.	s.	m.	s.	m.	s.	m.	s.	m.	s.
November	23	2 46,5	2 4,5	1 23,5	0 41,5	0 42,0	1 23,5	2 5,5	2 46,0					
	25	2 46,0	2 4,5	1 23,0	0 42,0	0 41,5	1 23,0	2 6,0	2 46,5					
	29	2 44,5	2 3,5	1 22,0	0 41,0	0 42,0	1 25,0	2 6,5	2 48,5					
December	4	2 47,0	2 5,0	1 23,5	0 42,0	0 41,0	1 23,0	2 4,5	2 46,5					
	5	.....	.....	1 21,5	.....	.....	1 23,5	.....	.....			
	7	.....	.....	1 25,5	.....	.....	1 23,0	.....	.....			
	9	.....	.....	1 24,5	.....	.....	1 20,5	.....	.....			
	12	2 45,0	.....	1 22,5	.....	.....	1 24,5	.....	2 47,0					
	13	2 44,0	.....	1 22,0	.....	.....	1 22,5	.....	2 46,5					
	14	2 49,5	.....	1 24,5	.....	.....	1 23,0	.....	2 47,5					
	15	2 45,5	.....	1 25,5	.....	.....	1 23,5	.....	2 45,5					
	16	2 46,0	.....	1 23,0	.....	.....	1 24,5	.....	2 46,5					
	16	2 45,0	.....	1 23,0	.....	.....	1 23,5	.....	2 46,0					
	17	2 45,0	.....	1 21,5	.....	.....	1 23,0	.....	2 45,5					
	18	2 45,0	.....	1 21,0	.....	.....	1 22,0	.....	2 46,0					
	19	2 48,0	.....	1 25,5	.....	.....	1 22,0	.....	2 44,0					
	20	2 46,0	.....	1 22,0	.....	.....	1 25,0	.....	2 48,0					
	21	2 46,5	.....	1 23,0	.....	.....	1 22,5	.....	2 46,5					
	22	2 49,5	.....	1 25,0	.....	.....	1 24,0	.....	2 46,5					
	23	2 47,0	.....	1 23,0	.....	.....	1 23,5	.....	2 47,0					
	24	2 45,5	.....	1 22,5	.....	.....	1 24,0	.....	2 44,5					
	24	2 48,0	.....	1 23,5	.....	.....	1 24,0	.....	2 48,0					
	25	2 46,5	.....	1 22,5	.....	.....	1 21,5	.....	2 43,5					
	26	2 48,0	.....	1 25,0	.....	.....	1 22,0	.....	2 46,0					
	26	2 48,0	.....	1 24,0	.....	.....	1 23,0	.....	2 45,5					
Mean..		2 46,46	2 4,55	1 23,25	0 41,87	0 41,25	1 23,14	2 4,95	2 46,29					

Taking the differences we find that the Pole Star passed from

R. D.	R. D.	s.
2 0 East	to 1 50 East	.....41,89 of time.
1 50 —	1 00 —	.....41,30 —
1 00 —	0 50 —	.....41,38 —
0 50 —	0 00 —	.....41,87 —
0 00 —	0 50 West	.....41,25 —
0 50 —	1 00 —	.....41,89 —
1 00 —	1 50 —	.....41,81 —
1 50 —	2 00 —	.....41,34 —

Hence we may safely assume the threads of the screw to be equidistant, and assuming the N.P.D. of the Pole Star to be $1^{\circ} 34' 46''$, the value of each revolution from the Mean of 32 Observations..... = $34'',394$
 In 1831.....10 — = $34'',277$
 hence we may safely assume the value of each revolution of the screw at $34'',366$.

ERROR OF LEVEL OF THE TRANSIT AXIS.

IN the Results of Observations Vol. I for 1831, it is stated that from 80 times inverting the Transit Axis, the diameter of the illuminating pivot apparently exceeded that of the other pivot $0''.58$: producing an error of level to the amount $0''.29$. In the reduction of the Observations in 1831, the correction due to this was included with the correction due to the error registered by the spirit level in the column for that purpose; following this plan the observations of 1832, were reduced, and those for 1833 far advanced, when, with a view to determine if this result remained constant (of which I had some doubt by reason of disagreement in the places of Polaris and δ Ursæ Minoris,) I made the following Observations.

Cross Level East and Illuminating Pivot.

						East.			West.	Illuminating Pivot.	
1833		Inversions.				"			"		
November	12	Mean of 10	Obj. Glass	N.	6,51	W. Obj. Glass	S.	26,37	W.	+	9,93
	13	—	6	—	S.	2,30	"	—	N.	20,55	— + 9,13
	14	—	4	—	S.	2,64	"	—	N.	24,21	— + 10,78
December	20	—	10	—	N.	11,07	E.	—	S.	13,31	— + 12,19
	20	—	10	—	N.	11,97	"	—	S.	13,94	— + 12,95
	25	—	8	—	S.	10,07	"	—	N.	14,60	— + 12,33
	25	—	4	—	N.	5,46	"	—	S.	16,53	— + 11,00

Taking the Mean, it appears that in the year 1833 or at 1833, 93 the illuminating pivot exceeded the other pivot to the amount $11''.37$, whereas at 1831, 27 it exceeded it only $0''.58$.

This enormous and extraordinary wear of the one pivot above the other, is, as far as concerns the construction of the pivots and Y's, altogether unaccountable; on inspecting the former which are of Bell Metal, it is quite evident that the unilluminating pivot has worn more than the other pivot, the appearance of either being such as would result from their having been turned in a lathe; the latter which are of brass, are not more worn than might be reasonably expected; in lieu of a line of contact on each face as exhibited on the erection of this Instrument in 1831; a groove of about, 14 Inches broad has been worn by the action of the pivots; to account for this change, no circumstances offer beyond the Instrument having been kept hard at work, and that too during three years of unusual heat and dust, in which, notwith-

standing the pivots were constantly kept covered by the slips of Brass* for the purpose; it was found necessary to wipe them and apply fresh oil on every second day at farthest but more frequently every day.

With a view to discover if the pivots continued of a circular figure: I attached to the Stone Pier a microscope (into the focus of which I had fitted a pair of lines at right angles to each other) and watched the motion of an exceedingly small point which I had made in a slip of ivory and cemented to the end of the pivot; when placed on the eastern or illuminating pivot and adjusted to its axis, the centre of the dot in every position of the Instrument remained perfectly bisected by the cross wires; when placed upon the Western pivot however the bisection was not so satisfactory; having failed after much loss of time to attach the dot opposite to the center of the axis of this pivot I allowed it to remain at a distance of about ,001 + from the centre and estimated the value of the rectangular co-ordinates of the centre of the dot from the intersection of the cross lines in tenths of the diameter of the dot as follows:

N.P.D.		The dot was situated.				Direction of the
						Telescope.
No.	1	at 347	to the North	,00	and 0,05 too high	North Horizon.
2	—	0	—	,10	— ,10	Pole.
3	—	13	—	,15	— ,25	"
4	—	30	—	,25	— ,30	"
5	—	50	—	,30	— ,35	"
6	—	76	—	,30	— ,45	Zenith.
7	—	95	—	,28	— ,52	"
8	—	120	—	,20	— ,55	"
9	—	140	—	,09	— ,58	"
10	—	160	—	,01	— ,65	South Horizon.
11	—	180	South	,03	— ,66	South Pole.
12	—	200	—	,15	— ,65	"
13	—	220	—	,20	— ,55	"
14	—	240	—	,25	— ,50	"
15	—	257	—	,30	— ,50	Nadir.
16	—	280	—	,33	— ,45	"
17	—	300	—	,30	— ,35	"
18	—	320	—	,16	— ,23	"
19	—	347	—	,00	— ,05	North Horizon.

* It is much to be regretted that no better means has yet offered for protecting this part of the Instrument from dust; in this climate, where for several days together occasionally, the air is saturated with sand, the want of a better cover is much felt.

the above which are the mean of several readings or rather estimations, can safely be depended upon to ,03 or ,04; the diameter of the dot was determined from a very neatly engraved scale of converging lines to be ,0025 Inches; assuming the above numbers and a large scale, we may now trace the curve described by any point on the axis of the pivot see fig. 1; and comparing the above numbers with the natural sines of the angles, we can determine the circle A. B. C. which agrees best with all the measures, from whence it appears that *the deviation of the pivot from a circular figure does not entail an error in any direction to the amount of one second of space* beyond which limits the means at my command do not enable me to offer an opinion or proof.

We will now enquire to what amount the Right Ascensions of the Planets and fixed Stars for the years 1831, 1832 and 1833, are effected by this unforeseen change in the pivots; In the first place we must recollect that the above excess of the illuminating pivot over the other is only an *apparent* one, for we have $2,82 (r - r') = 11'',37$ or the true difference of the radii of the pivots $r - r' = 4'',03 = ,00058$ Inches; and the error of level thus produced $= (r - r') \operatorname{cosec} . \frac{90^\circ}{2} = 5'',68$. Now if we diminish this amount by $0'',29$ (the error already allowed for) we obtain the error which remains to be allowed $= 5'',39$ which produces corrections to be applied to the reduced Right Ascensions as follows:

For	1 35	N.P.D.	above the Pole	+	3,30	in Time.
	1 35	—	below the Pole	—	2,60	—
	3 25	—	above the Pole	+	1,71	—
	3 25	—	below the Pole	—	1,05	—
	10 0	—	above the Pole	+	0,81	—
	20 0	—	—	+	0,57	—
	30 0	—	—	+	0,49	—
	40 0	—	—	+	0,45	—
	50 0	—	—	+	0,42	—
	60 0	—	—	+	0,39	—
	70 0	—	—	+	0,37	—
	80 0	—	—	+	0,36	—
	90 0	—	—	+	0,34	—
	100 0	—	—	+	0,33	—
	110 0	—	—	+	0,31	—
	120 0	—	—	+	0,29	—
	130 0	—	—	+	0,27	—
	140 0	—	—	+	0,25	—
	150 0	—	—	+	0,21	—
	160 0	—	—	+	0,12	—
	165 0	—	—	—	—	—

On consulting the method employed in reducing the observations of transits at Pages 31 et seq. of Vol. I, it will readily appear, that for Stars situated above 30° or 40° from the Pole, the greater part of the above corrections will be lost sight of in the determination of the Error of the Clock; thus, suppose (as actually has been the case in the reduction of the Observations for 1832 and 1833) that the Stars selected for the determination of the clock's error be situated between the limits of 65° and 115° of North Polar Distance; in this case the error of the Clock will be, instead of e , some number between $e + ,30$ and $e + ,38$; by assuming $e + ,34$ we are liable to an error $0",04$, i. e. this is the largest error we can possibly commit by such an assumption; but in 9 cases out of 10, I find the error does not exceed the half of this amount. Subtracting then $0",34$ from the above numbers we obtain the corrections proper to be applied to the reduced Right Ascensions made towards the end of the year 1833; thus in the case of α Lyrae; N.P.D. $51^\circ 22'$; whose A.R. we will suppose to have been determined towards the end of the year 1833; (the Clock error having been determined from a comparison of the observed places of Equatoreal Stars with the Greenwich Catalogue) we have to apply the correction $,42 - ,34 = ,08$; and for the Star α Cephei N.P.D. $28^\circ 7'$ we have to apply $,50 - ,34 = ,16$ &c. These corrections it must be recollected apply only to observations made towards the end of 1833, for dates antecedent to this (on the supposition that the wear of the one pivot above the other has been uniformly accelerated with the time) it will be proper to apply corresponding smaller corrections as follows:

Corrections to be applied to the Reduced A.R.							
		1831,5	1832,0	1832,5	1833,0	1833,5	1833,93
• /		"	"	"	"	"	"
1 35	A. P.	+ 0,15	+ 0,73	+ 1,30	+ 1,87	+ 2,45	+ 2,96
1 35	B. P.	— 0,12	— 0,56	— 1,00	— 1,44	— 1,87	— 2,26
3 25	A. P.	+ 0,07	+ 0,34	+ 0,60	+ 0,87	+ 1,13	+ 1,37
3 25	B. P.	— 0,04	— 0,18	— 0,32	— 0,46	— 0,59	— 0,71
10 0	A. P.	+ 0,03	+ 0,12	+ 0,21	+ 0,30	+ 0,39	+ 0,47
20 0	—	+ 0,01	+ 0,06	+ 0,10	+ 0,14	+ 0,19	+ 0,23
30 0	—	+ 0,01	+ 0,04	+ 0,07	+ 0,10	+ 0,13	+ 0,15
40 0	—	+ 0,01	+ 0,03	+ 0,05	+ 0,07	+ 0,09	+ 0,11
50 0	—	0,00	+ 0,02	+ 0,03	+ 0,05	+ 0,07	+ 0,08
60 0	—	0,00	+ 0,01	+ 0,02	+ 0,03	+ 0,04	+ 0,05
70 0	—	0,00	+ 0,01	+ 0,01	+ 0,02	+ 0,03	+ 0,03
80 0	—	0,00	0,00	+ 0,01	+ 0,01	+ 0,02	+ 0,02
90 0	—	0,00	0,00	0,00	0,00	0,00	0,00
100 0	—	0,00	0,00	0,00	0,00	0,00	— 0,01
110 0	—	0,00	0,00	— 0,01	— 0,02	— 0,02	— 0,03
120 0	—	0,00	— 0,01	— 0,02	— 0,03	— 0,04	— 0,05
130 0	—	0,00	— 0,01	— 0,03	— 0,04	— 0,06	— 0,07
140 0	—	0,00	— 0,02	— 0,04	— 0,06	— 0,08	— 0,09
150 0	—	— 0,01	— 0,04	— 0,06	— 0,09	— 0,11	— 0,13
160 0	—	— 0,01	— 0,05	— 0,10	— 0,14	— 0,18	— 0,22

If the computation of the observations for 1832 and 1833 had not been so nearly completed, the above corrections would as heretofore have been included with the ordinary correction for Level, but the case being otherwise, it will be found as I have already shewn, that an error of comparatively little importance is committed in employing the above table, where we find, that for observations in 1831 for Stars situated between 40° and 140° of N.P.D. no correction need be applied, and that for observations in 1832 and 1833 situated between these limits by employing the columns 1832,5 and 1833,5 respectively we are liable to errors which in no case exceed $.02''$. And further that up to the limits of 10° of N.P.D. it will be found sufficient to suppose the observations to have been made at that time of the year when the Star whose place we desire to correct passes the meridian at 9 o'clock at night; for Stars situated within this limit, (of which there are very few cases) the month and day must be taken into the account. In the reductions of the observations of the Sun, Moon and Planets for 1832 and 1833, I *had* employed the Errors of Level which now follow together with $0''.29$ for inequality of the pivots, these have consequently been since corrected by the above table, whereas the places of the fixed Stars are set down under the respective years in which they were observed *uncorrected*; the correction being taken account of in obtaining the column *mean* as will be further explained in the proper place.

ERROR OF COLLIMATION.

FROM inverting the Transit Instrument 23 times in the month of April 1831, it appeared that the South meridian mark was distant from the meridian mark to the North, reckoning towards the West; $180^\circ + 26''.97$; this number was accordingly employed in computing the error of Collimation for this year: towards the latter end of 1832, being about to compute the Errors of Collimation for the observations of that year, I set to work to verify the angle above measured as follows:

		Illuminating Pivot.				Collimation of	
		East.		West.			
	No. of	North	South	North	South	North	South
	Invers.	mark.	mark.	mark.	mark.	mark.	mark.
1832		"	"	"	"	"	"
Oct. 18..	10	..39,04 W.	.. 71,97 E.	.. 47,58 W.	.. 63,65 E.	.. 4,27 W.	.. 4,16

ERROR OF COLLIMATION.

	1833	"	"	"	"	"	"
Jan.	5.. 10	..38,94 W.	.. 64,10 — E.	39,39 W.	.. 63,50 E.	.. 0,22 W.	.. 0,30
	16.. 10	..37,12 —	.. 65,75 —	.. 40,28 —	.. 62,87 —	.. 1,58 —	.. 1,44
	18.. 10	..35,91 —	.. 67,11 —	.. 42,17 —	.. 62,07 —	.. 3,13 —	.. 2,52

And to see if this continued unaltered.

	"	"	"	"	"	"	"
Dec.	25.. 10	..32,92 W.	.. 61,40 E.	.. 36,59 W.	.. 56,94 E.	.. 1,83 W.	.. 2,23
	26.. 10	..33,83 —	.. 62,78 —	.. 36,22 —	.. 59,90 —	.. 1,20 —	.. 4,44
	28.. 10	..33,71 —	.. 61,93 —	.. 37,26 —	.. 57,77 —	.. 1,78 —	.. 2,08

If the Instrument were free from Error of Collimation the readings of Illuminating end East would be identical with those of Illuminating end West and would be as follows:

		Illuminating Pivot E. or W.				
		North	South	Angular		
		mark.	mark.	Distance.		
					$= 180^\circ +$	
1832		"	"	"		
October	18	.... 43,31 W.	.... 67,81 E.	....	24,50	
1833						
January	5	.... 39,16 —	.... 63,80 —	....	24,64	
	16	.... 38,70 —	.... 64,31 —	....	25,61	
	18	.... 39,04 —	.... 64,59 —	....	25,55	

And for the second series.

	"	"	"
December	25	.... 34,75 W.	.... 59,17 E.
	26	.... 35,02 —	.... 61,34 —
	28	.... 35,48 —	.... 59,85 —

Taking the mean it appears the South meridian mark was distant from the North meridian mark, reckoning to the *West* about ;

at the End of the year 1832 $= 180^\circ + 25",07$

— — — — — 1833 $= 25",04$

For the present I will postpone the discussion as to *when* the alteration of the angular distance between the two marks from $26",97$ to $25",07$ took place, and proceed to state, that the numbers which now follow in computing the corrections for Collimation for the years 1832 and 1833, have been employed, using $25",07$ for the angular distance together with $0",29$ for diurnal aberration.

ERROR OF COLLIMATION.

11

1832	Azimuth of		N. + S.	N + S + 25",07 2	Mean.	REMARKS.
	North mark.	South mark.				
	"	"	"	"		
January	1 + 19,46	- 28,68	- 9,22	+ 7,92		
	2 18,87	32,82	13,95	5,56		
	3 18,53	34,44	15,91	4,58		
	4	32,92				
	5 19,66	32,75	13,09	5,99		
	6 18,87	32,96	14,09	5,49		
	7 21,36	33,44	12,08	6,49		
	8 20,42	30,93	10,51	7,28		
	9 20,96	30,98	10,02	7,52		
	10 21,13	33,27	12,14	6,47	Mean of 10 + 6",53	
	11 21,65	30,83	9,18	7,94		
	12 21,31	31,24	9,93	7,57		
	13 21,72	30,76	9,04	8,01		
	14 21,13	29,99	8,86	8,10		
	15 21,60	29,24	7,64	8,71		
	16 21,45	30,25	8,80	8,14		
	17 21,48	29,41	7,93	8,57		
	18 21,96	30,35	8,39	8,34		
	19 21,48	29,38	7,90	8,58		
	24 31,86	.....	.....	.....	Mean of 8 + 8",25	Found the fourth wire broken, a new set were put in by Mr. Law.
	25 31,41	17,18				
February	3 30,42	22,78	+ 7,64	16,35	.....	One of the moveable wires found broken, which not being re- quired was consequently not replaced.
	4 29,58	19,24	10,34	17,70		
	5 29,34	21,52	7,82	16,44		
	6 29,75	20,72	9,03	17,05		
	7 30,18	18,39	11,79	18,43		
	8 31,52	18,43	13,09	19,08		
	9 32,21	17,70	14,51	19,79		
	10 31,30	17,56	13,74	19,40		
	11 32,65	16,63	16,02	20,54		
	12 29,58	21,72	7,86	16,46		
	13 29,92	20,96	8,96	17,01		
	14 29,72	21,10	8,62	16,84		
	15 29,89	21,48	8,41	16,74		
	16 29,61	21,65	7,96	16,51		
	17 28,44	22,89	5,55	15,31		
	18 29,71	22,58	7,13	16,10	.....	I returned to Madras from Cal- cutta, where I had been as- sisting in the measurement of a base line.
	19 27,98	22,41	5,57	15,32		
	20 29,48	21,65	7,83	16,45		
	21 30,93	20,72	10,21	17,64		
	22 31,89	21,03	10,86	17,96		
	23 28,92	22,65	6,27	15,67		
	24 29,65	21,92	7,73	16,40		
	25 31,10	20,59	10,51	17,79		
	26 30,96	21,21	9,75	17,41	Mean of 25 + 17",26	
	27 30,73	21,41	9,32	17,20		
	28 32,13	21,55	10,58	17,82		
	29 31,96	21,48	10,48	17,78		

ERROR OF COLLIMATION.

1832	Azimuth of		N. + S.	N + S + 25",07 2	Mean.	REMARKS.
	North mark.	South mark.				
	"	"	"	"		
March	1 + 32,20	- 21,03	+ 11,17	+ 18,12		
	2 32,27	20,69	11,58	18,32		
	3 32,17	21,03	11,14	18,11		
	4 31,83	20,65	11,18	18,13		
	5 31,10	21,65	9,45	17,26		
	6 31,30	21,20	10,10	17,58		
	7 31,44	20,90	10,54	17,81		
	8 30,96	21,24	9,72	17,39		
	9 32,03	20,83	11,20	18,13		
	10 33,16	21,48	11,68	18,36		
	11 32,38	21,93	10,45	17,77		
	12 31,58	21,65	9,93	17,50		
	13 31,51	21,65	9,86	17,47		
	14 31,30	21,55	9,75	17,41		
	15 31,03	21,45	9,58	17,33		
	16 30,80	20,93	9,87	17,47		
	17 31,44	20,83	10,61	17,84		
	18 31,86	20,76	11,10	18,08		
	19 31,76	21,03	10,73	17,90		
	20 31,17	21,31	9,86	17,46	Mean of 23	
	21 30,76	21,45	9,31	17,19	+ 17",75	
	22 30,59	23,10	7,49	16,28		
	23 30,08	23,69	6,39	15,73		
	24 30,49	23,59	6,90	15,99		
	25 30,59	23,38	7,21	16,14		
	26 30,46	22,41	8,05	16,56		
	27 30,62	23,72	6,90	15,99		
	28 30,62	22,41	8,21	16,64		
	29 30,25	22,55	7,70	16,38		
	30 30,93	23,03	7,90	16,48		
	31 29,99	22,20	7,79	16,43	Mean of 11	
April	1 30,42	22,34	8,08	16,58	+ 16",29	
	2 28,43	24,43	4,00	14,53		
	3 27,02	26,56	0,46	12,77		
	4 26,77	27,05	0,28	12,39		
	5 28,01	25,16	2,85	13,96		
	6 29,82	23,66	6,16	15,61		
	7 29,82	23,93	5,89	15,48		
	8 30,16	23,38	6,78	15,92		
	9 30,49	23,03	7,46	16,26		
	10 30,66	24,64	6,02	15,54		
	11 30,28	24,13	6,15	15,61		
	12 29,58	23,96	5,62	15,34		
	13 29,20	24,71	4,49	14,78		
	14 29,34	24,09	5,25	15,16		
	15 29,68	23,69	5,99	15,53		
	16 29,68	24,09	5,59	15,33		
	18 30,49	24,85	5,64	15,35		
	19 30,53	25,06	5,47	15,27		
	20 30,07	25,12	4,95	15,01		
	21 30,53	24,64	5,89	15,48		
	22 30,16	24,92	5,24	15,15		
	23 30,23	24,82	5,41	15,24		
						Re-examined and found correct.

OBSERVATIONS FOR LEVEL.

1832	Illumi- nating Pivot.	Error from Level.	REMARKS.	1832	Illumi- nating Pivot.	Error from Level.	REMARKS.
	D. H.	s.			D. H.	s.	
Jan.	2 1	East	5,24 E.	April	3 1	East	4,47 E.
	4 1	....	5,26 ..		5 1	....	4,45 ..
	6 1	....	5,50 ..		7 1	....	4,86 ..
	8 1	....	5,18 ..		9 1	....	4,60 ..
	10 1	....	4,86 ..		11 1	....	4,50 ..
	12 1	....	5,05 ..		13 1	....	5,04 ..
	14 1	....	5,14 ..		15 1	....	5,12 ..
	16 1	....	5,43 ..		17 1	....	4,46 ..
	18 1	....	5,43 ..		19 1	....	4,55 ..
	20 1	....	5,50 ..		23 1	....	4,14 ..
	24 1	....	5,71 ..		25 1	....	3,59 ..
	26 1	....	5,97 ..		27 1	....	4,33 ..
	28 1	....	6,17 ..		30 1	....	4,11 ..
	30 1	....	6,31 ..	May	2 1	....	5,26 ..
Feb.	1 1	....	5,52 ..		4 1	....	4,80 ..
	3 1	....	6,06 ..		7 1	....	5,25 ..
	5 1	....	5,58 ..		9 1	....	4,58 ..
	7 1	....	6,20 ..		11 1	....	3,85 ..
	9 1	....	5,61 ..		13 1	....	4,80 ..
	11 1	....	5,63 ..		15 1	....	4,43 ..
	13 1	....	5,67 ..		17 1	....	3,92 ..
	16 1	....	4,89 ..		19 1	....	4,27 ..
	18 1	....	4,47 ..		21 1	....	4,62 ..
	20 1	....	4,81 ..		23 1	....	3,36 ..
	22 1	....	4,78 ..		25 1	....	4,94 ..
	24 1	....	4,48 ..		27 1	....	4,73 ..
	27 1	....	5,10 ..		29 1	....	4,20 ..
	29 1	....	5,06 ..		31 1	....	4,21 ..
March	2 1	....	5,69 ..	June	2 1	....	3,42 ..
	4 1	....	5,02 ..		4 1	....	2,92 ..
	6 1	....	5,24 ..		6 1	....	2,28 ..
	8 1	....	3,97 ..		8 1	....	2,24 ..
	10 1	....	3,41 ..		10 1	....	2,40 ..
	12 1	....	4,56 ..		12 1	....	1,92 ..
	14 1	....	4,35 ..		14 1	....	2,11 ..
	16 1	....	5,25 ..		16 1	....	3,35 ..
	18 1	....	4,69 ..		18 1	....	2,58 ..
	20 1	....	4,88 ..		22 1	....	3,10 ..
	22 1	....	4,92 ..		24 1	....	3,13 ..
	24 1	....	5,56 ..		28 1	....	2,57 ..
	26 1	....	6,78 ..		30 1	....	2,75 ..
	28 1	....	4,07 ..	July	2 1	....	1,82 ..
	30 1	....	4,23 ..		5 1	....	2,36 ..
April	1 1	....	4,60 ..				Continued cloudy weather.

N. B.—The Pages 9, 10, 11, and 12 should have followed after line 20 of Page 13.

OBSERVATIONS FOR LEVEL.

1832		Illumi- nating Pivot.	Error from Level.	REMARKS.	1832		Illumi- nating Pivot.	Error from Level.	REMARKS.	
	D. H.		s.			D. H.		s.		
July	8 1	East	5,37 E.	I adjusted the level before the above reading.	Nov.	27 1	East	1,36 E.		
	16 1	....	7,65 ..		Dec.	1 1	....	1,19 ..	
	20 1	....	7,67 ..			3 1	....	1,05 ..	
	24 1	....	6,51 ..			6 1	....	1,68 ..	
	26 1	....	5,26 ..			8 1	....	0,50 ..	
	28 1	....	4,30 ..			10 1	....	0,72 ..	
	30 1	....	4,76 ..			13 1	....	0,34 ..	
Aug.	1 1	....	5,49 ..			16 1	....	0,89 ..	
	3 1	....	5,71 ..			18 1	....	0,71 ..	
	5 1	....	5,77 ..			21 1	....	1,23 ..	
	11 1	....	6,07 ..		24 1	....	0,97 ..		
	13 1	....	5,81 ..		27 1	....	1,31 ..		
	17 1	....	6,53 ..		30 1	....	0,72 ..		
	19 1	....	6,60 ..						
	21 1	....	6,21 ..	I re-examined this at 2 P. M. and found it correct.					
	23 1	6,47 ..		1833					
	25 1	10,61 ..		Jan.	2 1	East	0,35 E.		
	27 1	11,75 ..			4 1	0,30 ..		
	29 1	11,72 ..			7 1	1,09 ..		
	31 1	10,93 ..			9 1	1,06 ..		
Sept.	2 1	11,02 ..			11 1	0,66 ..		
	4 1	10,43 ..			14 1	1,45 ..		
	6 1	11,95 ..			17 1	3,48 W.		
	8 1	11,08 ..			19 1	3,38 ..		
	10 1	....	11,55 ..		21 1	....	3,23 ..		
	12 1	....	11,24 ..		23 1	....	3,87 ..		
	15 1	....	11,50 ..		25 1	....	4,12 ..		
	20 1	....	11,48 ..		27 1	....	4,14 ..		
	22 1	....	11,97 ..		29 1	....	4,61 ..		
	24 1	....	11,43 ..		31 1	....	5,27 ..		
	26 1	....	11,55 ..		Feb.	2 1	....	4,68 ..	
	28 1	....	11,85 ..			4 1	....	4,99 ..	
	30 1	....	12,06 ..			6 1	....	4,97 ..	
Oct.	2 1	....	12,32 ..			8 1	....	5,60 ..	
	4 1	....	12,14 ..			10 1	....	5,58 ..	
	6 1	....	11,88 ..			13 1	....	5,70 ..	
	9 1	....	12,05 ..			15 1	....	5,59 ..	
	12 1	....	12,46 ..			18 1	....	5,79 ..	
	14 1	....	12,18 ..	After the above was registered I lowered the East end 16s.		20 1	....	5,38 ..	
	19 1	17,48 ..			25 1	5,32 ..		
	19 2	1,12 ..			27 1	5,18 ..		
	23 1	1,63 ..		March	1 1	6,50 ..		
	26 1	1,54 ..			4 1	6,17 ..		
	28 1	1,50 ..			6 1	6,28 ..		
	30 1	1,57 ..			8 1	5,81 ..		
Nov.	1 1	0,60 ..			10 1	5,12 ..		
	3 1	1,18 ..			12 1	4,74 ..		
	5 1	0,86 ..			15 1	5,29 ..		
	8 1	....	0,41 ..		18 1	....	5,63 ..		
	10 1	....	0,32 ..		20 1	....	5,19 ..		
	12 1	....	0,81 ..		23 1	....	6,48 ..		
	14 1	....	1,02 ..		25 1	....	6,55 ..		
	16 1	....	1,06 ..		27 1	....	7,16 ..		
	21 1	....	1,77 ..		29 1	....	6,84 ..		
	23 1	....	1,35 ..		April	1 1	....	7,50 ..	
						3 1	....	8,37 ..	

OBSERVATIONS FOR LEVEL.

11

1833	Illumi- nating Pivot.	Error from Level.	REMARKS.	1833	Illumi- nating Pivot.	Error from Level.	REMARKS.
	D. H.	S.			D. H.	S.	
April	5 1	East	8,19 W.	Sept.	3 1	East	3,97 E.
	7 1	....	7,67 ..		6 1	....	4,36 ..
	9 1	....	8,93 ..		9 1	....	4,56 ..
	15 1	....	8,35 ..		11 1	....	5,81 ..
	17 1	....	8,68 ..		14 1	....	7,30 ..
	19 1	....	8,33 ..		16 1	....	7,84 ..
	21 1	....	8,19 ..		18 1	....	7,18 ..
	23 1	....	8,17 ..		21 1	....	8,31 ..
	26 1	....	8,33 ..		25 1	....	8,64 ..
	29 1	....	8,02 ..		27 1	....	8,95 ..
May	2 1	....	7,45 ..		28 1	....	2,96 W.
	4 1	....	7,66 ..		30 1	....	4,06 ..
	6 1	....	8,46 ..	Oct.	3 1	....	4,29 ..
	8 1	....	7,22 ..		5 1	....	3,50 ..
	11 1	....	7,57 ..		7 1	....	4,63 ..
	13 1	....	6,38 ..		9 1	....	4,25 ..
	18 1	....	6,57 ..		11 1	....	3,50 ..
	23 1	....	7,29 ..		14 1	....	3,65 ..
	25 1	....	7,59 ..		16 1	....	3,45 ..
June	4 1	....	7,95 ..		19 1	....	4,07 ..
	8 1	....	6,96 ..		21 1	....	3,91 ..
	10 1	....	6,76 ..		23 1	....	3,54 ..
	12 1	....	6,10 ..		31 1	....	2,71 ..
	14 1	....	5,74 ..	Nov.	7 1	....	0,20 E.
	20 1	....	4,61 ..		9 1	....	0,09 ..
	22 1	....	6,39 ..		13 7	....	.....
	24 1	....	4,65 ..				Inverted the axis 6 times.
	28 1	....	4,05 ..		14 1	....	.....
	30 1	....	4,55 ..		14 2	....	0,25 E.
July	4 1	....	3,37 ..		18 1	....	0 85 W.
	8 1	....	3,01 ..		20 1	....	0,70 ..
	14 1	....	2,79 ..		22 1	....	0,28 ..
	17 1	....	1,96 ..		24 1	....	1,15 ..
	20 1	....	1,10 ..		29 1	....	1,71 ..
	24 1	....	1,11 ..	Dec.	2 1	....	1,89 ..
	26 1	....	1,76 ..		4 1	....	1,98 ..
	28 1	....	1,60 ..		7 1	....	1,84 ..
Aug.	1 1	....	1,23 ..		9 1	....	0,67 ..
	3 1	....	1,31 ..		11 1	....	2,22 ..
	5 1	....	1,06 ..		13 1	....	1,70 ..
	7 1	....	0,12 ..		15 1	....	1,96 ..
	10 1	....	0,32 E.		19 1	....	1,78 ..
	13 1	....	0,94 ..		20 1	....	.....
	15 1	....	0,88 ..				Inverted the axis 20 times.
	19 1	....	1,78 ..		21 1	....	1,08 ..
	21 1	....	2,97 ..		23 1	....	1,34 ..
	24 1	....	3,86 ..		25 0	....	.....
	30 1	....	4,55 ..				Inverted the axis several times.
			Heavy rain with thunder and lightning.				

Since the above was put to Press it has occurred to me that some notion may be formed of the figure of the Pivots by noting the indications of the spirit level when applied to the axis under the various directions which the Telescope is capable of assuming when supporting the spirit level; from the

mean of four very careful readings agreeing very well *inter se*, the following were obtained.

Position of the Telescope. °	Error of Level. "		Position of the Telescope. °	Error of Level. "
290 N.P.D.	1,95 W.	....	110 N.P.D.	2,70 W.
300 —	2,00 —	....	120 —	2,75 —
310 —	1,80 —	....	130 —	2,20 —
320 —	1,45 —	....	140 —	1,75 —
330 —	1,00 —	....	150 —	1,50 —
340 —	1,05 —	....	160 —	1,80 —
350 —	2,55 —	....	170 —	2,05 —
360 —	2,60 —	....	180 —	2,45 —
10 —	2,50 —	....	190 —	2,70 —
20 —	2,50 —	....	200 —	2,35 —
30 —	2,35 —	....	210 —	2,20 —
40 —	2,10			

It will readily be understood that for the degrees of North Polar Distance intermediate between 40° and 110°, and between 210° and 290°, the spirit level cannot be applied; the results we have obtained, on the whole, are as accordant as might be expected; for assuming the mean of the above (2",10) as the true Error of Level, the greatest error amounts to 1",1.

1832	Azimuth of		N. + S.	N + S + 25",07	Mean.	REMARKS.
	North mark.	South mark.		2		
	"	"	"	"		
April	24 + 30,20	— 24,78	+ 5,42	+ 15,25		
	25 30,25	24,71	5,54	15,30		
	26 30,49	24,61	5,88	15,47		
	27 30,35	24,99	5,36	15,21		
	28 30,32	24,99	5,33	15,20		
	29 30,53	25,12	5,41	15,24		
	30 30,16	25,09	5,07	15,07		
May	1 30,35	25,19	5,16	15,11		
	2 30,28	25,41	4,87	14,97		
	3 30,52	24,92	5,60	15,33		
	4 30,32	25,12	5,20	15,13		
	5 30,42	25,26	5,16	15,11		
	6 30,45	25,34	5,11	15,09		
	7 29,98	25,26	4,72	14,89		
	8 30,15	25,37	4,78	14,92		
	9 29,65	25,44	4,21	14,64		
	10 30,13	25,44	4,69	14,88	Mean of 39	
	11 30,22	25,51	4,71	14,89	+ 15",06	
	12 31,10	23,65	7,45	16,26		
	13 32,10	21,82	10,28	17,67		
	14 32,17	21,89	10,28	17,67		
	15 31,86	22,40	9,42	17,25		
	16 31,79	22,09	9,70	17,38		
	17 32,21	22,01	10,20	17,63		
	18 33,48	22,41	11,07	18,07	.....	The Micrometer was taken out
	19 33,13	22,02	11,11	18,09		and cleaned, but no derange-
	20 33,16	21,96	11,20	18,13		ment appears to have thence
	21 32,82	22,34	10,48	17,78		resulted.
	22 32,34	22,48	9,86	17,47		
	23 31,62	23,03	8,59	16,83		
	24 31,69	22,68	9,01	17,04		
	25 31,44	22,85	8,59	16,83		
	26 31,76	22,71	9,05	17,06		
	27 31,69	22,51	9,18	17,12		
	28 31,93	22,68	9,25	17,16		
	29 31,90	22,55	9,35	17,21		
	30 31,90	22,48	9,42	17,24		
	31 32,13	22,02	10,11	17,59	Mean of 21	
June	1 32,52	21,72	10,80	17,93	+ 17",40	
	2 32,52	21,59	10,93	18,00		
	3 32,62	21,45	11,17	18,12		
	4 32,65	21,38	11,27	18,17		
	5 32,72	21,45	11,27	18,17		
	6 32,86	21,72	11,14	18,10		
	7 33,03	21,13	11,90	18,48		
	9 33,20	21,13	12,07	18,57		
	10 33,02	21,52	11,50	18,28		
	11 33,06	21,45	11,61	18,34		
	12 33,06	21,20	11,86	18,47		
	13 32,75	20,96	11,79	18,43		
	14 32,41	21,03	11,38	18,22		
	15 32,72	21,20	11,52	18,29		

1832	Azimuth of		N. + S.	N + S + 25",07 2	Mean.	REMARKS.
	North mark.	South mark.				
	"	"	"	"		
June	16	+ 33,16	- 21,13	+ 12,03	+ 18,55	
	17	33,06	21,20	11,86	18,47	
	18	32,52	20,96	11,56	18,31	
	19	32,79	21,41	11,38	18,22	
	20	32,65	20,45	12,20	18,63	
	21	32,82	21,13	11,69	18,38	
	22	32,86	21,31	11,55	18,31	
	24	32,72	20,99	11,73	18,40	
	25	32,68	20,56	12,12	18,59	
	27	32,72	20,96	11,76	18,41	
	28	32,62	20,69	11,93	18,50	
	29	32,62	20,69	11,93	18,50	
	30	32,62	20,59	12,03	18,55	Mean of 26 + 18",37
July	1	32,79	20,65	12,14	18,60	
	2	33,55	19,76	13,79	19,43	
	3	33,23	19,83	13,40	19,23	
	4	32,99	20,56	12,43	18,75	
	5	33,34	20,28	13,06	19,07	
	6	33,37	20,00	13,37	19,22	
	7	32,79	19,76	13,03	19,05	
	8	33,23	19,96	13,27	19,17	Mean of 8 + 19",07
	14	33,06	.....	.....	.....
	15	.....	.....	.....	.....
	16	67,59	32,67	34,92	30,00	
	17	67,04	33,36	33,68	29,37	
	24	67,56	32,70	34,86	29,97	
	25	67,56	33,01	34,55	29,81	
	27	67,21	33,36	33,85	29,46	
	29	67,28	32,88	34,40	29,73	
	30	67,90	32,67	35,23	30,15	
August	31	67,56	33,84	33,72	29,39	
	1	67,38	33,01	34,37	29,72	Mean of 10 + 29",72
	7	66,59	32,39	34,20	29,63	
	9	.....	.....	.....	.....
	13	36,09	- 67,73	- 31,64	- 3,28	
	14	36,26	66,00	29,74	2,33	
	15	36,61	66,35	29,74	2,33	
	17	36,44	65,72	29,28	2,11	
	18	36,47	66,07	29,60	2,26	
	19	35,54	66,17	30,63	2,78	
	20	35,91	66,35	30,44	2,68	
	21	35,77	66,03	30,26	2,59	
	22	35,96	65,72	29,76	2,35	
	23	35,91	65,33	29,42	2,17	Mean of 10 - 2",34
	24	36,16	64,86	28,70	1,82	
	25	39,49	68,40	28,91	1,92	
	26	39,76	69,05	29,29	2,11	
	27	39,73	69,64	29,91	2,42	
	28	39,89	69,11	29,22	2,08	

I adjusted the Instrument more
nearly to the Meridian.

Found the first wire bent I put
in a new set.

ERROR OF COLLIMATION.

19.

1832	Azimuth of		N. + S.	N + S + 25",07 2	Mean.	REMARKS.
	North mark.	South mark.				
	"	"	"	"		
August	29 + 39,69	— 68,91	— 29,22	— 2,08		
	30 39,96	68,77	28,81	1,87		
	31 40,21	67,49	27,28	1,11		
Sept.	1 40,21	67,50	27,29	1,11	Mean of 11	
	2 40,07	67,15	27,08	1,01	— 1",93	
	3 40,00	70,43	30,43	2,68		
	4 39,59	70,29	30,70	2,81		
	5 38,70	70,46	31,76	3,35		
	6 38,52	70,94	32,42	3,67		
	7 38,70	70,87	32,17	3,55		
	8 38,81	71,11	32,30	3,61	Mean of 5	
	9 38,87	71,18	32,31	3,62	— 3",56	
	13 39,42	70,46	31,04	2,98		
	14 40 38	.....	.....	.....	.....	Some trees obscured the South
	15 39 15					Mark.
	16 39 69					
	18 39,32					
	19 39,28					
	20 39,42	70,77	31,35	3,14		
	21 39,76	70,46	30,70	2,81		
	22 39,83	70,67	30,84	2,88		
	23 39,49	70 46	30,97	2,95		
	24 39,15	70,29	31,14	3,03		
	25 39,08	70,36	31,28	3,11		
	26 39,35	70,53	31,18	3,05		
	27 39,52	70,77	31,25	3,09		
	28 39,87	70,63	30,76	2,85		
	29 39,84	70,60	30,76	2,85		
	30 39,35	70,19	30,84	2,89		
October	1 39,76	70,16	30,70	2,81		
	3 39,89	70,87	30,98	2,95		
	4 40,03					
	5 39,76					
	6 39,55	70,15	30,60	2,76		
	7 39,93	70,49	30,56	2,75		
	8 39,79	70,46	30,67	2,80		
	9 39,76	70,63	30,87	2,90		
	10 40,18	70,12	29,94	2,43		
	11 40,18	69,66	29,48	2,21		
	12 39,93	70,15	30,22	2,57		
	13 39,59	70,35	30,76	2,85		
	14 39,69	70,19	30,50	2,71	Mean of 24	
	17 39,69	70,19	30,50	2,71	12",79	
	19 39,15	72,80	33,65	4,29	.....	Inverted the Axis several times.
	20 39,21	72,94	33,73	4,33		
	21 39,23	72,87	33,64	4,28		
	22 39,45	72 90	33,45	4,19		
	23 39,18	72,53	33,35	4,14		
	24 38,39	72,08	33 69	4,31		
	25 38,56	72,01	33,45	4,19		
	26 38,52	71,86	33,34	4,13		

ERROR OF COLLIMATION.

1832	Azimuth of		N. + S.	N + S + 25",07 2	Mean.	REMARKS.
	North mark.	South mark.				
	"	"	"	"		
October 27	+ 38,15	- 71,97	- 33,82	- 4,38		
28	37,98	71,83	33,85	4,39		
29	38,22	71,48	33,26	4,10		
30	38,66	72,00	33,34	4,13		
31	38,49	72,00	33,51	4,22		
Nov. 1	38,39	71,86	33,47	4,20		
2	38,25	71,14	32,89	3,91		
3	38,56	71,48	32,92	3,92		
4	38,12	71,65	33,53	4,23		
5	37,97	71,38	33,41	4,17		
6	38,32	71,48	33,16	4,04		
7	38,12	71,14	33,02	3,98	Mean of 21	
8	38,32	71,48	33,16	4,04	- 4",13	
9	41,08	67,48	26,40	0,66	.....	Found the moveable wire loose, which appeared to arise from the gum securing it, having swelled so much from the moist state of the air as to bring it in contact with the plate securing the fixed wires; to remedy this, I removed all the wires, and filed grooves at either end to contain the varnish necessary to secure their ends.
10	41,21	67,32	26,11	0,52		
11	41,58	67,66	26,08	0,51		
12	41,04	67,56	26,52	0,72		
13	40,77	67,18	26,41	0,67		
14	41,01	67,25	26,24	0,58		
15	40,60	67,18	26,58	0,75	Mean of 8	
16	40,52	67,04	26,52	0,72	- 0",64	
17	39,69	64,89	25,20	0,06		
18	39,52	64,78	25,26	0,10		
19	39,80	65,65	25,85	0,39		
20	40,04	65,82	25,78	0,36		
21	40,42	66,04	25,62	0,28		
22	40,04	64,96	24,92	+ 0,07		
23	40,21	64,86	24,65	+ 0,21		
24	40,04	64,78	24,74	+ 0,16		
25	39,69	64,96	25,27	- 0,10		
26	39,97	65,33	25,36	0,14		
27	39,73	65,48	25,75	0,34		
28	39,86	65,62	25,76	0,35		
29	39,73	65,47	25,74	0,34		
30	40,00	64,89	24,89	+ 0,09		
Dec. 1	39,86	64,82	24,96	+ 0,05		
2	40,53	64,75	24,22	+ 0,43		
3	40,84	65,30	24,46	+ 0,31		
4	40,49	64,96	24,47	0,30		
5	40,21	64,61	24,40	0,33		
6	40,04	64,55	24,51	0,28		
7	40,17	64,48	24,31	0,38		
8	39,73	64,04	24,31	0,38		
9	39,70	64,21	24,51	0,28		
10	39,76	64,41	24,65	0,21		
11	40,04	64,59	24,55	0,26		
12	40,31	64,61	24,30	0,38		
13	40,21	64,71	24,50	+ 0,28		
14	39,86	64,96	25,10	- 0,01		
15	38,40	63,66	25,26	- 0,09		
16	38,06	63,38	25,32	- 0,12		
17	39,49	63,87	24,38	+ 0,35		

1832	Azimuth of		N. + S.	N + S +	Mean.	REMARKS.
	North mark.	South mark.		25",07		
	"	"	"	2		
Dec.	18	+ 39,36	— 64,07	— 24,71	+ 0,18	
	19	39,18	63,76	24,58	+ 0,25	
	20	39,06	63,93	24,87	+ 0,10	
	21	38,84	64,21	25,37	— 0,15	
	22	38,49	63,83	25,34	0,13	
	23	38,56	63,93	25,37	0,15	
	24	38,25	63,59	25,34	0,13	
	25	38,36	63,88	25,52	0,22	
	26	38,40	63,11	24,71	+ 0,18	
	27	38,56	63,07	24,51	+ 0,28	
	28	38,33	63,93	25,60	— 0,26	
	29	38,15	64,78	26,63	0,78	
	30	38,84	64,14	25,30	0,11	
	31	39,22	64,34	25,12	0,02	
1833						
January	1	+ 38,84	— 64,61	— 25,77	0,35	
	2	38,73	64,00	25,27	0,10	
	3	38,40	63,90	25,50	0,21	
	4	38,84	63,59	24,75	+ 0,16	
	5	38,88	63,96	25,08	— 0,00	..... Inverted the Axis several times.
	6	38,70	64,00	25,30	0,11	
	7	38,49	64,24	25,75	0,34	Mean of 53
	8	38,56	64,18	25,62	0,27	— 0",01
	9	39,63	62,93	23,30	+ 0,88	
	10	40,63	62,42	21,79	+ 1,64	
	11	40,46	62,21	21,75	1,66	
	12	40,56	62,55	21,99	1,54	
	13	39,52	61,86	22,34	1,36	
	14	39,52	61,86	22,34	1,36	Mean of 6
	15	39,86	62,38	22,52	1,27	+ 1",47 Inverted the Axis several times.
	17	40,97	60,21	19,24	+ 2,91	
	18	42,52	61,34	18,82	3,12	..... Inverted the Axis several times.
	19	42,62	61,01	18,39	3,34	
	20	42,45	61,59	19,14	2,96	
	21	42,27	61,89	19,62	2,72	
	22	42,62	61,17	18,55	3,26	
	23	42,85	61,41	18,56	3,25	
	24	42,34	60,86	18,52	3,27	
	25	42,07	60,62	18,55	3,26	
	26	41,58	60,21	18,63	3,22	
	27	41,76	60,17	18,41	3,33	Mean of 12
	28	41,65	60,65	19,00	3,03	+ 3",14
	29	42,80	59,10	16,30	+ 4,38	
	30	44,24	58,07	13,83	5,62	
	31	44,34	58,42	14,08	5,49	
February	1	44,51	58,07	13,56	5,75	
	2	43,82	57,73	13,91	5,58	
	3	44,00	57,94	13,94	5,56	
	4	44,00	58,07	14,07	5,50	

ERROR OF COLLIMATION.

1833	Azimuth of		N. + S.	N + S + 25",07 2	Mean.	REMARKS.
	North mark.	South mark.				
	"	"	"	"		
February	5 + 44 21	— 58,42	— 14,21	+ 5,43		
	6 44,41	58,93	14,52	5,27		
	7 44,03	58,63	14,60	5,23		
	8 44,75	58,76	14,01	5,53		
	9 44,58	58,52	13,94	5,56		
	10 44,62	58,76	14 14	5,46		
	11 44,48	59,45	14 97	5,05		
	12 43,93	58,45	14 52	5,27		
	13 44,34	58,66	14,32	5,37		
	14 44,10	59,00	14,90	5,08		
	15 44,34	59,34	15,00	5,03		
	16 44,28	58,93	14,65	5,21		
	17 44,07	59,31	15,24	4,91		
	18 44,34	59,17	14,83	5,12		
	19 44,28	58,59	14,31	5,38		
	20 43,76	58,93	15,17	4,95		
	21 44,24	59,17	14,93	5,07		
	22 44,51	59,59	15,08	4,99		
	23 44,75	58,90	14,15	5,46		
	24 44,51	59,10	14 59	5,24		
	25 45,19	59,00	13,81	5,63		
	26 44,92	58 83	13,91	5,58		
	27 44,75	58,66	13,91	5,58		
	28 44,92	58,83	13 91	5,58		
March	1 44,51	58,59	14,08	5,49		
	2 44,68	58,73	14,05	5,51		
	3 44,92	58,86	13,94	5,56		
	4 45,19	59,10	13,91	5,58		
	5 44,89	58 59	13,70	5,68		
	6 44,68	58,70	14,02	5,52		
	7 45,05	58,91	13,86	5,60		
	8 45,58	59,17	13,59	5,74		
	9 44,03	58,59	14 56	5,25	Mean of 41	
	10 44,65	58,59	13,94	5,46	+ 5",87	
	11 42,44	61,00	18,56	3,25		
	12 42,30	60,97	18,67	3,20		
	13 42,73	60,60	17,87	3,60		
	14 42,90	60,55	17,65	3,71		
	15 42,35	60,48	18,13	3,47		
	16 43,03	61,04	18,01	3,53		
	17 43,27	61,62	18,35	3,36		
	18 42,51	60,86	18,35	3,36		
	19 42 51	61,00	18,49	3,29		
	20 42,48	60,48	18,00	3,53		
	21 42,96	60,51	17,55	3,76		
	22 43,34	60,48	17,14	3,96		
	23 42,99	60,55	17,56	3,75		
	24 42,44	60,14	17,70	3,68		
	25 42,62	60,17	17,55	3,76		
	26 42,27	60,14	17,87	3,60		
	27 42,17	61,17	19,00	3,03		
	28 42,30	60,83	18,53	3,27		
	29 42,27	60,93	18,66	3,20		

1833	Azimuth of		N. + S.	N + S + 25",07 2	Mean.	REMARKS.
	North mark.	South mark.				
	"	"	"	"		
March	30 + 42,30	— 61,04	— 18,74	+ 3,16		
	31 42,62	61,31	18,69	3,19		
April	1 42,48	60,69	18,21	3,43		
	2 42,58	60,83	18,25	3,41		
	3 42,51	60,83	18,32	3,37		
	4 43,06	60,86	17,80	3,63		
	5 42,79	60,83	18,04	3,51		
	6 42,83	60,93	18,10	3,48		
	7 42,83	61,14	18,31	3,38		
	8 42,27	60,90	18,63	3,22		
	9 42,44	61,04	18,60	3,23		
	10 42,37	61,14	18,77	3,15		
	11 42,96	61,38	18,42	3,32		
	12 42,58	60,83	18,25	3,41		
	13 42,30	60,62	18,32	3,37		
	14 42,34	60,83	18,49	3,29		
	15 42,62	60,69	18,07	3,50		
	16 42,37	60,97	18,60	3,23		
	17 42,34	60,90	18,56	3,25		
	18 42,41	60,58	18,17	3,45		
	19 42,41	60,61	18,20	3,43		
	20 42,55	60,48	17,93	3,57		
	21 42,55	60,31	17,76	3,65		
	22 42,72	60,83	18,11	3,48		
	23 42,30	60,86	18,56	3,25		
	24 42,41	60,86	18,45	3,31		
	25 42,58	61,11	18,53	3,27		
	26 42,21	60,93	18,72	3,17		
	27 42,72	60,90	18,18	3,44		
	28 42,55	60,79	18,24	3,41		
	29 42,48	60,83	18,35	3,36		
	30 42,48	61,14	18,66	3,20		
May	1 41,62	60,48	18,86	3,10		
	2 42,10	60,83	18,73	3,17		
	3 42,10	60,65	18,55	3,26		
	4 42,48	60,55	18,07	3,50		
	5 42,48	61,04	18,56	3,25		
	6 42,10	61,00	18,90	3,08		
	7 42,13	60,62	18,49	3,29		
	8 42,17	61,04	18,87	3,10		
	9 42,44	60,72	18,28	3,39		
	10 42,14	60,69	18,55	3,26	Mean of 62	
	11 42,14	60,83	18,69	3,19	+ 3",38	The centre wire appears to have shifted its position no doubt from the action of the hot land wind; fearing it might have become loose I applied fresh varnish (tincture of Opium) without disturbing the Plate.
	12 40,56	63,45	22,89	1,09		
	13 40,56	63,41	22,85	1,11		
	14 39,80	63,90	24,10	0,48		
	15 39,66	63,83	24,17	0,45		
	16 39,86	64,58	24,72	0,18		
	17 39,73	64,37	24,64	0,21	Mean of 7	
	18 40,00	64,64	24,64	+ 0,21	+ 0",53	
	19 40,49	65,58	25,09	— 0,01		
	20 39,69	65,47	25,78	0,35		

ERROR OF COLLIMATION.

1833	Azimuth of		N. + S.	N + S + 25",07 2	Mean.	REMARKS.
	North mark.	South mark.				
	"	"	"	"		
May	21 + 38,56	— 64,85	— 26,29	— 0,61		
	22 38,49	64,44	25,95	0,44		
	23 38,18	64,75	26,57	0,75		
	24 38,59	64,68	26,09	0,51		
	25 38,49	64,78	26,29	0,61		
	26 38,39	64,58	26,19	0,56		
	27 38,32	64,61	26,29	0,61		
	28 38,25	64,89	26,64	0,78		
	29 38,46	64,99	26,53	0,73		
	30 38,56	64,61	26,05	0,49		
June	31 38,15	65,30	27,15	1,04		
	1 38,84	64,34	25,50	0,21		
	2 38,43	64,61	26,18	0,56		
	3 38,70	64,27	25,57	0,25		
	4 38,67	64,34	25,67	0,30		
	5 38,73	64,34	25,61	0,27		
	6 38,52	64,55	26,03	0,48		
	7 38,18	64,14	25,96	0,44		
	8 38,56	64,61	26,05	0,49		
	9 38,70	63,96	25,26	0,09		
	10 38,81	64,14	25,33	0,13		
	11 38,98	64,00	25,02	+ 0,02		
	12 38,91	64,03	25,12	— 0,02		
	13 38,87	64,03	25,16	0,05		
	14 38,73	64,48	25,75	0,34		
	19 39,89	65,30	25,41	0,17		
	20 39,66	65,37	25,71	0,32		
	21	65,37				
	22 39,49	65,37	25,88	0,40		
	23 39,01	64,83	25,82	0,38		
	24 38,77					
July	25 39,08	65,13	26,05	0,49		
	26 38,77	64,99	26,22	0,57		
	27 38,56	64,78	26,22	0,57		
	28 38,43	64,78	26,35	0,64		
	29 38,39					
	30 38,49					
	1 38,59	64,51	25,92	0,42		
	2 39,09	64,41	25,32	0,12		
	3 39,21	64,10	24,89	+ 0,09		
	4 38,87	64,48	25,61	0,27		
	5 39,09	64,24	25,15	0,04		
	6 38,15	64,14	25,99	0,46		
	7 38,87	64,27	25,40	0,16		
	8 38,73	64,51	25,78	0,36		
	9 38,70	64,45	25,75	0,34		
	10 38,22	64,99	26,77	0,85		
	11 38,56	64,51	25,95	0,44		
	12 38,80	65,03	26,23	0,58		
	13 38,56	64,71	26,15	0,54		
	14 38,52	64,68	26,16	0,54		
	15 38,36	64,68	26,32	0,62		
	16 38,12	63,93	25,81	0,37		
	17 38,29	64,37	26,08	0,50		

ERROR OF COLLIMATION.

25

1833		Azimuth of		N. + S.	N + S + 25",07 2	Mean.	REMARKS.
		North mark.	South mark.				
		"	"	"	"		
July	18	+ 37,91	— 64,21	— 26,30	— 0,62	Mean of 60 — 0",44	In consequence of heavy rain last night having leaked through the roof, a few drops had fallen upon the eye piece and bent one of the wires ; I put in a new set.
	19	38,22	64,00	25,78	0,35		
	20	38,32	64,58	26,26	0,59		
	21	38,22					
	22	38,18	64,75	26,57	0,75		
	23	38,09	64,27	26,18	0,56		
	24	38,25	64,71	26,46	0,69		
	25	38,32	64,45	26,13	0,53		
	26	38,25	64,58	26,33	0,63		
		27	38,15				
August	28	37,98	64,68	26,70	0,81	Mean of 25 — 0",95	
	29	37,98					
	30	37,67	64,58	26,91	0,92		
	31	37,40	64,55	27,15	1,04		
	1	37,02	65,03	28,01	1,47		
	2	37,56	64,21	26,65	0,79		
	3	37,49	63,77	26,23	0,60		
	4	37,60	64,51	26,91	0,92		
	5	37,98	64,68	26,70	0,81		
	6	37,63	64,44	26,81	0,87		
	7	37,84	64,71	26,87	0,90		
	8	37,29	64,27	26,98	0,95		
	9	37,12	64,21	27,09	1,01		
	10	37,49	64,27	26,78	0,85		
	11	37,56	64,52	26,96	0,94		
	12	37,49	64,34	26,85	0,89		
	13	37,81	64,45	26,64	0,78		
	14	37,33	64,21	26,88	0,90		
	15	37,12	64,52	27,40	1,16		
	16	37,06	64,27	27,21	1,07		
	17	37,03	64,11	27,08	1,01		
	18	37,43					
	19	37,49	64,27	26,78	0,85		
	20	37,46	64,27	26,81	0,87		
	21	37,81	64,89	27,08	1,01		
	22	37,37	64,61	27,24	1,08		
	23	37,12	64,61	27,49	1,21		
	24	36,85	65,72	28,87	1,90	Mean of 9 — 1",84	
	25	36,78	65,72	28,94	1,93		
	26	37,46	67,04	29,58	2,25		
	27	37,46	66,42	28,96	1,94		
	28	38,32	67,80	29,48	2,20		
	30	38,66	66,79	28,13	1,53		
	31	38,43	66,66	28,23	1,58		
Sept.	1	38,52	66,86	28,34	1,63		
	2	38,73	67,04	28,31	1,62		
	3	38,73	.....	.....	.....
	4	38,84					
	8	39,52	65,79	26,27	0,60		
	9	39,69	66,24	26,55	0,74		
	10	39,28	66,24	26,96	0,94		

ERROR OF COLLIMATION.

1833		Azimuth of		N. + S.	N + S + 25",07	Mean.	REMARKS.	
		North mark.	South mark.		2			
Sept.	11	+ 39,52	— 66,69	— 27,17	— 1,05	Mean of 5 — 0",82		
	12	39,08	65,82	26,74	0,83			
	13	37,02	67,38	30,36	2,64			
	14	36,95	67,87	30,92	2,92			
	15	36,95	67,59	30,64	2,78			
	16	37,03	67,69	30,66	2,79			
	17	37,36	67,59	30,23	2,58			
	18	36,95	67,76	30,81	2,87			
	19	36,72	67,97	31,25	3,09			
	20	37,12	68,14	31,02	2,97			
	21	37,19	67,90	30,71	2,82			
	22	36,44						
	23	36,85	68,07	31,22	3,07			
	24	36,78	68,14	31,36	3,14			
	25	36,72	68,01	31,29	3,11			
	26	36,69	68,01	31,32	3,12			
	27	37,81	68,43	30,62	2,78			
	28	38,49	68,68	30,19	2,56			
	29	38,56	69,02	30,46	2,69			
	30	38,94	67,76	28,82	1,87			
	October	1	38,94	68,47	29,53	2,23		Mean of 20 — 2",75
		2	39,42	69,60	30,18	2,56		
		3	38,84	68,95	30,11	2,52		
		4	38,59	68,64	30,05	2,49		
		5	38,56	68,68	30,12	2,52		
		6	38,43	68,74	30,31	2,62		
		7	38,53	68,64	30,11	2,52		
		8	38,49	68,74	30,25	2,59		
		9	39,01	68,24	29,23	2,08		
		10	38,91					
11		38,87	68,40	29,53	2,23			
12		38,91						
13		38,66	68,31	29,65	2,29			
14		38,05	68,14	30,09	2,51			
15		38,32	67,97	29,65	2,29			
16		38,39	67,73	29,34	2,13			
17		39,08	67,38	28,30	1,61			
18		38,91	67,18	28,27	1,60			
19		38,77						
20		38,87						
21		38,46	68,31	29,85	1,39			
22		38,63	68,01	29,38	2,15			
23		38,91	68,01	29,10	2,01			
24		38,91	68,07	29,16	2,04			
25		39,18	67,35	28,17	1,55			
26		39,18	.....	.....	.....
27		39,25	.....	.....	.....
Nov.		1	37,81	67,38	29,57	2,25	Trees obscured the South Mark.	
		2	38,15					
		3	38,77	67,11	28,34	1,63		
	4	38,84						

1833	Azimuth of		N. + S.	N + S + 25",07 2	Mean.	REMARKS.
	North mark.	South mark.				
	"	"	"	"		
Nov.	5 + 38,77	- 67,04	- 28,27	- 1,60		
	6 39,42					
	7 39,39	67,38	27,99	1,46		
	8 38,87					
	9 38,46	67,11	28,65	1,79		
	11 37,81					
	12 36,09					
	13 36,72					
	15 35,57	64,96	29,39	2,16	.....	Inverted the Axis several times.
	16 36,09	64,68	28,59	1,76		
	17 35,84	64,71	28,87	1,90		
	18 35,30	63,96	28,66	1,79		
	19 35,30	63,90	28,60	1,76		
	20 35,20	64,27	29,07	2,00		
	21 34,71	64,00	29,29	2,11		
	22 35,06	64,27	29,21	2,07		
	23 35,27	63,27	28,00	1,47		
	24 35,23	63,59	28,36	1,64		
	25 35,23	63,24	28,01	1,47	Mean of 25	
	26 35,13	63,07	27,94	1,43	— 1",83	
	27 35,09	62,86	27,77	1,35		
	28 34,74	62,21	27,47	1,20		
	29 34,58	62,10	27,52	1,22		
	30 34,74	62,14	27,40	1,16		
Dec.	1 34,99	62,28	27,29	1,11		
	2 34,71	62,00	27,29	1,11		
	3 34,78	62,17	27,39	1,16		
	4 34,58	61,93	27,35	1,14		
	5 34,71	62,03	27,32	1,12		
	6 34,78	62,14	27,36	1,14		
	7 35,13	62,21	27,08	1,01		
	8 35,06	62,28	27,22	1,07		
	9 34,92	62,35	27,43	1,18		
	10 34,37	61,73	27,36	1,14		
	11 34,03	61,86	27,83	1,38		
	12 34,10	61,93	27,83	1,38		
	13 34,69	62,14	27,45	1,19		
	14 34,44	61,89	27,45	1,19		
	15 34,54	62,03	27,49	1,21		
	16 34,68	62,21	27,53	1,23		
	17 35,27	62,58	27,31	1,12		
	18 34,40	61,93	27,53	1,23		
	19 34,58	62,10	27,52	1,22	Mean of 24	
	20 33,90	62,03	28,13	1,53	— 1",21	Inverted the Axis several times.
	23 32,31					
	24 31,86	62,83	30,97	2,95	.....	Inverted the Axis several times.
	25 33,24	61,52	28,28	1,60		
	26 34,03	62,55	28,52	1,72		
	27 33,66	61,55	27,89	1,41		
	28 33,59	61,86	28,27	1,60	Mean of 7	
	29 33,59	61,86	28,27	1,60	— 1",62	
	30 33,16	61,86	28,70	1,81		
	31 33,37	61,53	28,16	1,54		

ERROR OF AZIMUTH.

From the foregoing pages, it appears that the Angular distance between the North and South marks has varied from 26",97, to 25",07, in the interval between April 1831, and October 1832, it will consequently be our first step to enquire which of the Marks, or if both of them have moved? for this purpose we will now consult the observations of the Pole Star: correcting the observed transit for Error of the Clock, Error of Collimation, and the Error for Level as modified by the wear of the pivots (already explained at Pages 7 and 8); we obtain the apparent place *affected by the Azimuthal Error*; applying to this the Equations for aberration, nutation, and precession; we obtain the Mean place at the beginning of the year as *affected by the Azimuthal Error*; selecting now the consecutive observations *above* and *below* the pole, we can determine the values of a^1 a^{11} &c. the errors in Azimuth of the center wire as follows:

1832	Observed Transit.	Error of Clock.	Correction for		Aberration, &c.	Mean Right Ascension January 1, 1832.			Resulting values of a^1 , a^{11} , &c.
			Level.	Collimation.					
	<i>h. m. s.</i>	<i>m. s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>h. m. s.</i>		<i>s.</i>	
Dec. 7	0 59 46,17	+ 0 50,04	+ 1,20	- 0,68	- 43,28	0 59 53,45	+ 2,316 a^1		$a^1 = 4,70$
7 S.P.	13 0 7,00	+ 0 52,06	- 1,40	+ 0,68	- 42,96	13 0 15,38	- 2,351 a^1		
8 S.P.	12 59 59,67	+ 0 56,56	- 1,50	+ 0,68	- 42,32	13 0 13,09	- 2,351 a^{11}		$a^{11} = 4,55$
9	0 59 34,17	+ 0 58,70	+ 1,74	- 0,68	- 42,00	0 59 51,93	+ 2,316 a^{11}		
9 S.P.	12 59 52,00	+ 1 0,79	- 1,49	+ 0,68	- 41,69	13 0 13,29	- 2,351 a^{11}		$a^{11} = 4,55$
10	0 59 31,50	+ 1 2,95	+ 1,91	- 0,68	- 41,37	0 59 54,31	+ 2,316 a^{111}		
12	0 59 18,20	+ 1 11,71	+ 1,99	- 0,68	- 40,06	0 59 51,16	+ 2,316 a^{1v}		$a^{1v} = 3,97$
12 S.P.	12 59 36,00	+ 1 14,27	- 1,56	+ 0,68	- 41,44	13 0 9,67	- 2,351 a^{1v}		
13	0 59 12,40	+ 1 16,79	+ 2,06	- 0,68	- 39,38	0 59 51,19	+ 2,316 a^v		$a^v = 3,98$
13 S.P.	12 59 30,00	+ 1 19,08	- 1,60	+ 0,68	- 39,02	13 0 9,88	- 2,351 a^v		
15	0 59 2,30	+ 1 26,47	+ 1,85	- 0,68	- 37,98	0 59 51,86	+ 2,316 a^{v1}		$a^{v1} = 4,08$
15 S.P.	12 59 20,67	+ 1 28,57	- 1,45	+ 0,68	- 37,63	13 0 10,84	- 2,351 a^{v1}		
16	0 59 0,60	+ 1 30,67	+ 1,73	- 0,68	- 37,28	0 59 55,04	+ 2,316 a^{v11}		$a^{v11} = 3,47$
16 S.P.	12 59 16,30	+ 1 32,93	- 1,36	+ 0,68	- 36,93	13 0 11,62	- 2,351 a^{v11}		
17	0 58 54,14	+ 1 34,59	+ 1,78	- 0,68	- 36,58	0 59 53,25	+ 2,316 a^{v111}		$a^{v111} = 3,92$
18 S.P.	12 59 5,40	+ 1 42,06	- 1,45	+ 0,68	- 35,50	13 0 11,19	- 2,351 a^{1x}		
19	0 58 44,50	+ 1 44,45	+ 1,73	- 0,68	- 35,14	0 59 54,86	+ 2,316 a^{1x}		$a^{1x} = 3,50$
20	0 58 36,00	+ 1 49,12	+ 1,89	- 0,68	- 34,42	0 59 51,91	+ 2,316 a^x		
20 S.P.	12 58 53,00	+ 1 51,20	- 1,28	+ 0,68	- 34,06	13 0 9,54	- 2,351 a^x		$a^x = 3,77$
21	0 58 32,60	+ 1 53,98	+ 1,52	- 0,68	- 33,71	0 59 53,71	+ 2,316 a^{x1}		
23 S.P.	12 58 41,10	+ 2 5,99	- 1,40	+ 0,68	- 31,86	13 0 14,51	- 2,351 a^{x11}		$a^{x11} = 4,39$
24	0 58 13,70	+ 2 8,65	+ 1,67	- 0,68	- 31,46	0 59 51,88	+ 2,316 a^{x11}		
24 S.P.	12 58 31,10	+ 2 10,90	- 1,36	+ 0,68	- 31,11	13 0 10,21	- 2,351 a^{x111}		$a^{x111} = 3,28$
25	0 58 11,10	+ 2 13,55	+ 1,65	- 0,68	- 30,71	0 59 54,91	+ 2,316 a^{x111}		
26	0 58 7,00	+ 2 18,08	+ 1,59	- 0,68	- 29,19	0 59 56,03	+ 2,316 a^{x1v}		$a^{x1v} = 3,28$
26 S.P.	12 58 21,30	+ 2 20,19	- 1,30	+ 0,68	- 20,60	13 0 11,27	- 2,351 a^{x1v}		

1833		Observed Transit.	Error of Clock.	Correction for		Aberra- tion, &c.	Mean Right Ascension January 1, 1832.			Resulting values of $a^1, a^1, \&c.$
				Level.	Colli- mation.					
		<i>h. m. s.</i>	<i>m. s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>h. m. s.</i>			<i>s.</i>
Jan.	2 S.P.	12 57 45,00	+ 2 50,39	- 1,66	+ 1,23	- 24,12	13 0 10,84	- 2,351	a^{xv}	$a^{xv} = 3,84$
	3	0 57 24,00	+ 2 52,56	+ 2,12	- 1,23	- 23,72	0 59 53,73	+ 2,316	a^{xv}	
	3 S.P.	12 57 42,00	+ 2 54,22	- 1,67	+ 1,23	- 23,32	13 0 12,46	- 2,351	a^{xvi}	$a^{xvi} = 4,36$
	4	0 57 17,80	+ 2 55,92	+ 2,14	- 1,23	- 22,92	0 59 51,71	+ 2,316	a^{xvi}	
	4 S.P.	12 57 37,00	+ 2 57,57	- 1,69	+ 1,23	- 22,52	13 0 11,59	- 2,351	a^{xvi}	$a^{xvii} = 3,84$
	5	0 57 12,40	+ 2 59,23	+ 1,98	- 1,23	- 22,12	0 59 52,26	+ 2,316	a^{xvii}	
	5 S.P.	12 57 30,00	+ 3 0 76	- 1,55	+ 1,23	- 21,73	13 0 8,71	- 2,351	a^{xvii}	$a^{xviii} = 3,96$
	6	0 57 11,30	+ 3 2,28	+ 1,83	- 1,23	- 21,33	0 59 52,85	+ 2,316	a^{xviii}	
	6 S.P.	12 57 31,00	+ 3 4,02	- 1,37	+ 1,23	- 20,93	13 0 13,95	- 2,351	a^{xviii}	$a^{xix} = 4,56$
	7	0 57 7,00	+ 3 5,76	+ 1,66	- 1,23	- 20,53	0 59 52,66	+ 2,316	a^{xix}	
	8	0 57 4,30	+ 3 9,37	+ 1,67	- 1,23	- 19,74	0 59 54,37	+ 2,316	a^{xix}	$a^{xx} = 3,51$
	8 S.P.	12 57 19,10	+ 3 11,11	- 1,31	+ 1,23	- 19,35	13 0 10,78	- 2,351	a^{xx}	
	10	0 56 46,20	+ 3 17,11	+ 1,92	+ 2,88	- 18,16	0 59 49,95	+ 2,316	a^{xxi}	$a^{xxi} = 5,02$
	10 S.P.	12 57 16,60	+ 3 18,87	- 1,45	- 2,88	- 17,77	13 0 13,37	- 2,351	a^{xxi}	
	11	0 56 43,70	+ 3 20,64	+ 2,04	+ 2,88	- 17,37	0 59 51,89	+ 2,316	a^{xxii}	$a^{xxii} = 4,61$
	11 S.P.	12 57 12,50	+ 3 22,27	- 1,55	- 2,88	- 16,97	13 0 13,37	- 2,351	a^{xxii}	
	14 S.P.	12 56 56,40	+ 3 30,85	- 1,17	- 2,88	- 14,58	13 0 8,62	- 2,351	a^{xxiii}	$a^{xxiii} = 3,44$
	15	1 0 32,60	- 0 28,88	+ 2,44	+ 2,88	- 14,18	0 59 54,86	+ 2,316	a^{xxiii}	
	15 S.P.	13 1 4,90	- 0 28,98	- 1,96	- 6,90	- 13,79	13 0 13,27	- 2,351	a^{xxiii}	$a^{xxiv} = 2,11$
	16	1 0 33,00	- 0 29,35	+ 3,44	+ 6,90	- 13,40	1 0 0 59	+ 2,316	a^{xxiv}	
	16 S.P.	13 0 59,50	- 0 29,24	- 2,75	- 6,90	- 13,00	13 0 7,61	- 2,351	a^{xxiv}	$a^{xxv} = 3,40$
	17	1 0 24,60	- 0 30,01	+ 4,42	+ 6,90	- 12,61	0 59 53,30	+ 2,316	a^{xxv}	
	17 S.P.	13 1 3,80	- 0 30,38	- 3,54	- 6,90	- 12,21	13 0 10,77	- 2,351	a^{xxv}	

If we now correct the *observed* Azimuth of the North and South Marks for the Error of Collimation, with the assistance of the above values of a we can determine their *true* Azimuth from the meridian; thus:

1832	Azimuth of the centre wire from Meridian.	Azimuth from centre wire of		Azimuth from the Meridian of		REMARKS.
		North mark.	South mark.	North mark.	South mark.	
December	<i>a^1</i> = N. 4,70 E.	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	
	9 <i>a^{11}</i> = — 4,55 ..	N. 39,79 W.	S. 64,86 E.	N. 35,09 E.	S. 60,16 E.	
	10 <i>a^{111}</i> = — 4,08 ..	.. 39,42 ..	.. 64,49 ..	.. 35,37 ..	.. 60,44 ..	
	12 <i>a^{1v}</i> = — 3,97 ..	.. 39,55 ..	.. 64,62 ..	.. 35,47 ..	.. 60,54 ..	
	13 <i>a^{1v}</i> = — 3,98 ..	.. 39,93 ..	.. 65,00 ..	.. 35,96 ..	.. 61,03 ..	
	15 <i>a^{1v}</i> = — 4,08 ..	.. 39,93 ..	.. 65,00 ..	.. 35,95 ..	.. 61,02 ..	
	16 <i>a^{1v}</i> = — 4,08 ..	.. 38,50 ..	.. 63,57 ..	.. 34,42 ..	.. 59,49 ..	
	16 <i>a^{1v}</i> = — 3,47 ..	.. 38,18 ..	.. 63,25 ..	.. 34,71 ..	.. 59,78 ..	
	17 <i>a^{1v}</i> = — 3,92 ..	.. 39,15 ..	.. 64,22 ..	.. 35,23 ..	.. 60,30 ..	
	19 <i>a^{1x}</i> = — 3,50 ..	.. 38,94 ..	.. 64,01 ..	.. 35,44 ..	.. 60,51 ..	
	20 <i>a^{1x}</i> = — 3,77 ..	.. 38,96 ..	.. 64,03 ..	.. 35,09 ..	.. 60,16 ..	
	21 <i>a^{1x}</i> = — 3,40 ..	.. 38,99 ..	.. 64,06 ..	.. 35,59 ..	.. 60,66 ..	
	24 <i>a^{1x}</i> = — 4,39 ..	.. 38,38 ..	.. 63,45 ..	.. 33,99 ..	.. 59,06 ..	
	25 <i>a^{1x}</i> = — 3,28 ..	.. 38,58 ..	.. 63,65 ..	.. 35,30 ..	.. 60,37 ..	
	26 <i>a^{1x}</i> = — 3,28 ..	.. 38,22 ..	.. 63,29 ..	.. 34,94 ..	.. 60,01 ..	
1833						
January	3 <i>a^{1x}</i> = — 3,84 ..	.. 38,61 ..	.. 63,68 ..	.. 34,77 ..	.. 59,84 ..	
	4 <i>a^{1x}</i> = — 4,36 ..	.. 38,68 ..	.. 63,75 ..	.. 34,32 ..	.. 59,39 ..	

1833	Azimuth of the centre wire from Meridian.	Azimuth from centre wire of		Azimuth from the Meridian of		REMARKS.
		North mark.	South mark.	North mark.	South mark.	
January	5 a^{xvii} = N. 3,84 E.	s. N. 38,88 W.	s. S. 63,96 E.	s. N. 35,04 E.	s. S. 60,12 E.	
	6 a^{xviii} = — 3,96 ..	.. 38,81 ..	.. 63,88 ..	.. 34,85 ..	.. 59,92 ..	
	7 a^{xix} = — 4,56 ..	.. 38,83 ..	.. 63,90 ..	.. 34,27 ..	.. 59,34 ..	
	8 a^{xx} = — 3,51 ..	.. 38,85 ..	.. 63,92 ..	.. 35,34 ..	.. 60,41 ..	
	10 a^{xxi} = — 5,02 ..	.. 39,00 ..	.. 64,07 ..	.. 33,98 ..	.. 59,05 ..	
	11 a^{xxii} = — 4,61 ..	.. 38,80 ..	.. 63,87 ..	.. 34,19 ..	.. 59,26 ..	
	15 a^{xxiii} = — 3,44 ..	.. 38,59 ..	.. 63,66 ..	.. 35,15 ..	.. 60,22 ..	
	16 a^{xxiv} = — 2,11 ..	.. 38,59 ..	.. 63,66 ..	.. 36,48 ..	.. 41,55 ..	
	17 a^{xxv} = — 3,40 ..	.. 38,06 ..	.. 63,13 ..	.. 34,66 ..	.. 59,73 ..	

Taking the mean of 25 we have $35^{\circ},02$ and $60^{\circ},09$ for the true Azimuths. If N and S represent the *observed* Azimuth of the Centre wire from the North and South Marks and, C the Error of Collimation.

The Azimuth of the Centre wire from the Meridian = $35^{\circ},02 \pm C - N$.

————— = $60^{\circ},09 \mp C - S$.

Taking half the sum..... = $95^{\circ},11 - N - S$.

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Similarly we have for the Year 1833.

1833	Observed Transit.	Error of Clock.	Correction for		Aberra- tion, &c.	Mean Right Ascen- sion, Jan. 1, 1832.	Resulting values of $a^1, a^2, \&c.$
			Level.	Colli- mation.			
Nov. 19	h. m. s.	m. s.	s.	s.	s.	h. m. s.	s.
	1 1 27,75	— 0 29,87	+ 3,89	— 5,13	— 46,03	0 59 54,83	+ a^1
	19 S.P. 13 1 35,75	— 0 28,76	— 3,05	+ 5,13	— 45,79	13 0 7,50	— a^1
	20 1 1 25,70	— 0 27,78	+ 3,85	— 5,13	— 45,55	0 59 55,31	+ a^1
	20 S.P. 13 1 36,43	— 0 27,06	— 3,01	+ 5,13	— 45,31	13 0 10,40	— a^2
Dec. 23	1 1 17,25	— 0 23,03	+ 3,85	— 5,13	— 44,11	0 59 53,05	+ a^3
	23 S.P. 13 1 30,14	— 0 22,32	— 3,02	+ 5,13	— 43,86	13 0 10,29	— a^3
	5 1 0 56,80	— 0 7,70	+ 4,63	— 3,63	— 37,47	0 59 56,85	+ a^4
	5 S.P. 13 1 10,90	— 0 7,64	— 3,70	+ 3,63	— 37,17	13 0 10,24	— a^4
	6 1 0 57,25	— 0 6,88	+ 4,59	— 3,63	— 36,85	0 59 58,70	+ a^4
Dec. 6	1 0 54,00	— 0 6,06	+ 4,58	— 3,63	— 36,21	0 59 56,90	+ a^5
	8 1 0 54,25	— 0 5,76	+ 4,18	— 3,63	— 35,58	0 59 57,68	+ a^6
	8 S.P. 13 1 4,50	— 0 4,94	— 3,30	+ 3,63	— 35,27	13 0 8,84	— a^6
	9 1 0 54,50	— 0 4,68	+ 3,86	— 3,63	— 34,95	0 59 59,32	+ a^6
	9 S.P. 13 1 2,64	— 0 4,23	— 3,05	+ 3,63	— 34,64	13 0 8,57	— a^7
Dec. 10	1 0 51,75	— 0 3,60	+ 4,34	— 3,63	— 34,31	0 59 58,77	+ a^7
	10 S.P. 13 0 59,17	— 0 3,09	— 3,45	+ 3,63	— 33,97	13 0 6,51	— a^8
	11 1 0 50,25	— 0 2,48	+ 4,87	— 3,63	— 33,64	0 59 59,59	+ a^8
	11 S.P. 13 0 59,57	— 0 2,16	— 3,82	+ 3,63	— 33,30	13 0 8,14	— a^9
	12 1 0 51,00	— 0 1,60	+ 4,71	— 3,63	— 32,97	1 0 1,73	+ a^9
Dec. 12	0 56,50	— 0 1,03	— 3,69	+ 3,63	— 32,63	13 0 7,00	— a^{10}
	18 1 0 29,50	+ 0 10,04	+ 4,63	— 3,63	— 28,76	0 59 56,00	+ a^{11}
	18 S.P. 13 0 38,00	+ 0 11,06	— 3,63	+ 3,63	— 28,43	13 0 4,85	— a^{11}
	19 1 0 29,62	+ 0 12,70	+ 4,60	— 3,63	— 28,04	0 59 59,47	+ a^{11}

1833	Observed Transit.	Error of Clock.	Correction for		Aberration, &c.	Mean Right Ascension, Jan. 1, 1832.	Resulting values of $a^1, a^2, \&c.$
			Level.	Collimation.			
Dec. 24 S.P.	<i>h. m. s.</i> 13 0 18,00	<i>m. s.</i> + 0 26,41	<i>s.</i> — 4,35	<i>s.</i> + 7,43	<i>s.</i> — 24,00	<i>h. m. s.</i> 13 0 7,71 — a^{12}	$a^{12} = 1,32$
25	1 0 11,00	+ 0 27,77	+ 6,70	— 4,62	— 23,62	1 0 1,45 + a^{12}	
25 S.P.	13 0 17,80	+ 0 28,77	— 5,27	+ 4,62	— 23,24	13 0 6,90 — a^{13}	$a^{13} = 1,55$
26	1 0 3,25	+ 0 30,28	+ 6,41	— 4,62	— 22,85	0 59 57,69 + a^{13}	
26 S.P.	13 0 16,00	+ 0 31,25	— 5,08	+ 4,62	— 22,49	13 0 8,52 — a^{14}	$a^{14} = 2,07$
27	1 0 3,89	+ 0 32,24	+ 6,11	— 4,62	— 22,09	0 59 59,75 + a^{14}	
27 S.P.	13 0 12,00	+ 0 32,91	— 4,84	+ 4,62	— 21,70	13 0 7,21 — a^{15}	$a^{15} = 1,58$
28 S.P.	13 0 7,50	+ 0 35,15	— 4,74	+ 4,62	— 20,92	13 0 5,83 — a^{16}	
29	0 59 56,37	+ 0 36,66	+ 5,81	— 4,62	— 20,52	0 59 57,92 + a^{16}	$a^{16} = 1,68$
30	0 59 57,12	+ 0 38,30	+ 5,67	— 4,62	— 19,74	1 0 0,95 + a^{17}	
30 S.P.	12 59 59,93	+ 0 39,65	— 4,49	+ 4,62	— 19,35	13 0 4,58 — a^{17}	$a^{17} = 0,82$
31	0 59 53,00	+ 0 41,22	+ 5,52	— 4,62	— 18,95	1 0 0,39 + a^{17}	

Comparing these values of $a, a^1, \&c.$ as before, with the Azimuthal readings corrected for Error of Collimation, we obtain as follows:

1833	Azimuth of the centre wire from Meridian.	Azimuth from centre wire of		Azimuth from the Meridian of		REMARKS.
		North mark.	South mark.	North mark.	South mark.	
November 19	$a^1 = N. 2,63 E.$	$S. 37,06 W.$	$S. 62,13 E.$	$S. 34,43 W.$	$S. 59,50 E.$	
20	$a^2 = — 3,19 ..$	$S. 37,20 ..$	$S. 62,07 ..$	$S. 34,01 ..$	$S. 59,08 ..$	
23	$a^3 = — 3,64 ..$	$S. 36,73 ..$	$S. 61,80 ..$	$S. 33,09 ..$	$S. 58,16 ..$	
December 5	$a^4 = — 2,63 ..$	$S. 35,82 ..$	$S. 60,89 ..$	$S. 33,19 ..$	$S. 58,26 ..$	
6	$a^5 = — 1,77 ..$	$S. 35,92 ..$	$S. 60,99 ..$	$S. 34,15 ..$	$S. 59,22 ..$	
8	$a^6 = — 2,19 ..$	$S. 36,13 ..$	$S. 61,20 ..$	$S. 33,94 ..$	$S. 59,01 ..$	
9	$a^7 = — 2,02 ..$	$S. 36,10 ..$	$S. 61,17 ..$	$S. 34,08 ..$	$S. 59,15 ..$	
10	$a^8 = — 1,76 ..$	$S. 35,52 ..$	$S. 60,59 ..$	$S. 33,76 ..$	$S. 58,83 ..$	
11	$a^9 = — 1,78 ..$	$S. 35,41 ..$	$S. 60,48 ..$	$S. 33,63 ..$	$S. 58,70 ..$	
12	$a^{10} = — 1,11 ..$	$S. 35,41 ..$	$S. 60,48 ..$	$S. 34,30 ..$	$S. 59,37 ..$	
18	$a^{11} = — 1,50 ..$	$S. 35,63 ..$	$S. 60,70 ..$	$S. 34,13 ..$	$S. 59,20 ..$	
24	$a^{12} = — 1,32 ..$	$S. 34,81 ..$	$S. 59,88 ..$	$S. 33,49 ..$	$S. 58,56 ..$	
25	$a^{13} = — 1,55 ..$	$S. 34,84 ..$	$S. 59,91 ..$	$S. 33,29 ..$	$S. 58,36 ..$	
26	$a^{14} = — 2,07 ..$	$S. 35,75 ..$	$S. 60,82 ..$	$S. 33,68 ..$	$S. 58,75 ..$	
27	$a^{15} = — 1,58 ..$	$S. 35,07 ..$	$S. 60,14 ..$	$S. 33,49 ..$	$S. 58,56 ..$	
28	$a^{16} = — 1,68 ..$	$S. 35,19 ..$	$S. 60,26 ..$	$S. 33,51 ..$	$S. 58,58 ..$	
30	$a^{17} = — 0,82 ..$	$S. 35,19 ..$	$S. 60,26 ..$	$S. 34,37 ..$	$S. 59,44 ..$	
Mean of 17 = N. $33'',79$ W. S. $58'',86$ E.						

Whence it appears that the North and South Marks have each deviated $1''23$, following the same direction in which they had first moved ; for the observations of 1832, we have already found (Page 30.)

The Error in Azimuth..... = $\frac{95'',11 - N - S.}{2}$

Whereas for the observations towards the end of 1833, we

now find it..... = $\frac{92'',65 - N - S.}{2}$

As no circumstances offer to shew, if the present alteration took place gradually, or on a sudden; we will for the present suppose the latter number to take effect from the first of July 1833; and for the previous 6 months, employ the mean of the determinations for 1832 and 1833 or $93^{\circ}.87' - N - S$

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with these we will now compute the observations of the Pole Star, δ Ursæ Minoris, and 76 Draconis, which have been observed both above and below the Pole in 1832 and 1833.

POLARIS AT SUPERIOR CULMINATION.									
1832		Observed A.R. correct- ed for Error of Clock.		Correction for			Aberration, &c.	Mean A.R. 1832.	
				Level.	Azimuth.	Collimation.			
		1h.						1h.	
		m.	s.		s.	s.	s.	m.	s.
October	19	0	53,17	+	1,38	+ 18,91	- 10,76	0	0,99
	21	0	54,20	+	1,22	.....	.....	0	2,09
	22	0	55,00	+	1,16	.....	.....	0	2,95
	23	0	53,56	+	1,06	.....	.....	0	1,53
	24	0	53,74	+	1,08	.....	.....	0	1,89
	25	0	54,49	+	1,10	.....	.....	0	2,82
	26	0	55,57	+	1,12	.....	.....	0	4,08
	27	0	55,17	+	1,15	.....	.....	0	3,86
	28	0	55,81	+	1,16	+ 17,22	.....	0	3,03
	29	0	54,76	+	0,61	.....	.....	0	1,64
	30	0	56,73	+	0,00	.....	.....	0	4,21
	31	0	55,31	+	1,46	.....	.....	0	3,46
November	1	0	55,15	+	1,75	.....	.....	0	3,85
	2	0	53,47	+	1,57	.....	.....	0	2,26
	3	0	53,43	+	1,41	.....	.....	0	3,32
	4	0	51,32	+	1,49	.....	.....	0	1,56
	5	0	53,04	+	1,59	.....	.....	0	2,75
	12	0	45,42	+	1,62	+ 15,34	- 2,21	0	4,20
	13	0	44,80	+	1,56	.....	.....	0	3,83
	15	0	45,71	+	1,48	.....	.....	0	5,46
	16	0	44,76	+	1,46	.....	.....	0	4,89
	17	0	42,52	+	1,43	+ 11,48	- 0,68	0	0,74
	18	0	42,99	+	1,34	.....	.....	0	1,57
	19	0	41,42	+	1,26	.....	.....	0	0,37
December	21	0	42,96	+	1,08	.....	.....	0	2,68
	22	0	41,97	+	1,21	.....	.....	0	2,29
	23	0	42,49	+	1,41	.....	.....	0	3,51
	25	0	41,51	+	1,41	.....	.....	0	3,58
	29	0	38,84	+	1,43	.....	.....	0	3,06
	30	0	38,50	+	1,46	.....	.....	0	3,32
	3	0	36,88	+	1,57	.....	.....	0	3,61
	4	0	35,79	+	1,45	.....	.....	0	2,97
	6	0	35,91	+	1,33	.....	.....	0	4,12
	7	0	36,21	+	1,20	.....	.....	0	4,93
	9	0	32,87	+	1,74	.....	.....	0	3,41
	10	0	34,45	+	1,91	.....	.....	0	5,79
	11	0	32,15	+	1,84	.....	.....	0	4,07
	12	0	29,91	+	1,99	.....	.....	0	2,64
	13	0	29,19	+	2,06	.....	.....	0	2,67
	15	0	28,77	+	1,85	+ 8,67	.....	0	0,63
	16	0	31,27	+	1,73	.....	.....	0	3,71

POLARIS AT SUPERIOR CULMINATION.											
1832		Observed A.R. correct- ed for Error of Clock.		Correction for			Aberration, &c.	Mean A.R. 1832.			
				Level.	Azimuth.	Collimation.					
		1h.						1h.			
		m.	s.	s.	s.	s.	s.	m.	s.		
December	17	0	28,73	+	1,78	+ 8,67	- 0,68	-	36,58	0	1,92
	19	0	28,95	+	1,73	.....	.....	-	35,14	0	3,53
	20	0	25,12	+	1,89	.....	.....	-	34,42	0	0,58
	21	0	26,58	+	1,52	.....	.....	-	33,71	0	2,38
	22	0	24,66	+	1,58	.....	.....	-	32,96	0	1,27
	24	0	22,35	+	1,67	.....	.....	-	31,46	0	0,55
	25	0	24,45	+	1,65	.....	.....	-	30,71	0	3,38
	26	0	25,08	+	1,59	.....	.....	-	29,96	0	4,70
	27	0	24,97	+	1,52	.....	.....	-	29,19	0	5,29
1833.											
January	2	0	17,00	+	2,11	+ 10,28	- 1,23	-	8,74	0	19,42
	3	0	16,56	+	2,12	.....	.....	-	7,94	0	19,79
	4	0	13,72	+	2,14	.....	.....	-	7,14	0	17,67
	5	0	11,63	+	1,98	.....	.....	-	6,34	0	16,32
	6	0	13,58	+	1,83	.....	.....	-	5,55	0	18,91
	7	0	12,76	+	1,66	.....	.....	-	4,75	0	18,72
	8	0	13,67	+	1,67	.....	.....	-	3,96	0	20,43
	10	0	3,31	+	1,92	.....	+ 2,38	-	2,38	0	16,01
	11	0	4,34	+	2,04	.....	.....	-	1,59	0	17,95
	15	0	3,72	+	2,44	.....	.....	+	1,60	0	20,92
June	16	0	3,65	+	3,44	.....	.....	+	2,38	0	22,63
	17	59	54,59	+	4,42	.....	+ 6,90	+	3,17	0	19,36
	27	0	10,11	+	5,55	+ 11,19	- 1,76	-	1,20	0	23,89
	28	0	8,16	+	5,48	.....	.....	-	1,97	0	21,10
July	7	0	19,17	+	4,86	+ 12,07	.....	-	8,90	0	25,44
	12	0	17,92	+	4,77	.....	.....	-	12,73	0	20,27
	14	0	19,37	+	4,73	.....	.....	-	14,23	0	20,18
November	19	0	57,88	+	3,89	+ 7,32	- 5,13	-	46,03	0	17,93
	20	0	57,92	+	3,85	.....	.....	-	45,55	0	18,41
	23	0	54,22	+	3,85	.....	.....	-	44,01	0	16,25
	27	0	54,33	+	4,34	+ 4,86	- 3,63	-	42,35	0	17,55
December	2	0	50,50	+	4,64	.....	.....	-	39,28	0	17,09
	3	0	50,84	+	4,63	.....	.....	-	38,68	0	18,02
	4	0	51,06	+	4,66	.....	.....	-	38,08	0	18,87
	5	0	49,10	+	4,63	.....	.....	-	37,47	0	17,49
	6	0	50,37	+	4,59	.....	.....	-	36,85	0	19,34
	7	0	47,94	+	4,58	.....	.....	-	36,21	0	17,54
	8	0	48,49	+	4,18	.....	.....	-	35,58	0	18,32
	9	0	49,82	+	3,86	.....	.....	-	34,95	0	19,96
	10	0	48,15	+	4,34	.....	.....	-	34,31	0	19,41
	11	0	47,77	+	4,87	.....	.....	-	33,64	0	20,23
	12	0	49,40	+	4,71	.....	.....	-	32,97	0	22,37
	14	0	44,95	+	4,79	.....	.....	-	31,63	0	19,35
	18	0	39,54	+	4,63	.....	.....	-	28,76	0	16,64
	19	0	42,32	+	4,60	.....	.....	-	28,04	0	20,11
	22	0	37,87	+	4,25	.....	.....	-	25,86	0	17,49
	23	0	38,94	+	4,34	.....	.....	-	25,13	0	19,38
	24	0	47,22	+	5,52	+ 2,38	- 7,99	-	24,38	0	22,75
	25	0	38,77	+	6,70	+ 3,32	- 4,62	-	23,62	0	20,55
	26	0	34,53	+	6,41	.....	.....	-	22,85	0	16,79
	27	0	36,13	+	6,11	.....	.....	-	22,19	0	18,75
	29	0	33,03	+	5,81	-	20,52	0	17,02
	30	0	35,42	+	5,67	-	19,74	0	20,05
	31	0	34,22	+	5,52	-	18,95	0	19,49

ERROR OF AZIMUTH.

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POLARIS AT INFERIOR CULMINATION.									
1832		Observed A.R. correct- ed for Error of Clock.		Correction for			Aberration, &c.	Mean A.R. 1832.	
				Level.	Azimuth.	Collimation.			
		13h.						12h.	
		m.	s.	s.	s.	s.	s.	m.	s.
December	12	0	50,27	— 1,56	— 11,46	+ 0,68	— 39,72	59	58,21
	13	0	49,08	— 1,60	.....	.....	— 39,02	59	57,68
	14	0	51,80	— 1,53	.....	.....	— 38,33	0	1,46
	15	0	49,24	— 1,45	— 8,64	.....	— 37,63	0	2,20
	16	0	49,23	— 1,36	.....	.....	— 36,93	0	2,92
	18	0	47,46	— 1,45	.....	.....	— 35,50	0	2,55
	20	0	44,20	— 1,28	.....	.....	— 34,06	0	0,90
	23	0	47,09	— 1,40	.....	.....	— 31,86	0	5,87
	24	0	42,00	— 1,36	.....	.....	— 31,11	0	1,57
	26	0	41,49	— 1,30	.....	.....	— 29,60	0	2,63
1833									
January	2	0	35,39	— 1,66	— 10,22	+ 1,23	— 8,34	0	12,94
	3	0	36,22	— 1,67	.....	.....	— 7,54	0	14,55
	4	0	34,57	— 1,69	.....	.....	— 6,74	0	17,15
	5	0	30,76	— 1,55	.....	.....	— 5,95	0	14,26
	6	0	35,02	— 1,37	.....	.....	— 5,15	0	19,51
	8	0	30,21	— 1,31	.....	.....	— 3,57	0	16,34
	10	0	35,47	— 1,45	.....	— 2,88	— 1,99	0	18,93
	11	0	34,77	— 1,55	.....	.....	— 1,19	0	18,93
	13	0	26,66	— 1,35	.....	.....	+ 0,40	0	12,61
	14	0	27,25	— 1,17	.....	.....	+ 1,20	0	14,18
November	15	0	35,22	— 1,96	.....	— 6,90	+ 1,99	0	18,83
	16	0	30,26	+ 2,75	.....	.....	+ 2,78	0	13,17
	17	0	33,42	— 3,54	.....	.....	+ 3,57	0	16,33
	19	1	6,99	— 3,05	— 7,24	+ 5,13	— 45,79	0	16,04
	20	1	9,37	— 3,01	.....	.....	— 45,31	0	18,94
	21	1	7,54	— 2,92	.....	.....	— 44,83	0	17,68
	22	1	6,66	— 2,81	.....	.....	— 44,35	0	17, 9
	23	1	7,81	— 3,02	.....	.....	— 43,86	0	18,82
	28	1	7,25	— 3,49	— 4,81	+ 3,63	— 41,78	0	20,80
December	1	1	3,92	— 3,60	.....	.....	— 39,58	0	19,56
	5	1	3,26	— 3,70	.....	.....	— 37,17	0	21,21
	6	0	58,53	— 3,62	.....	.....	— 36,54	0	17,19
	8	0	59,56	— 3,30	.....	.....	— 35,27	0	19,81
	9	0	58,41	— 3,05	.....	.....	— 34,64	0	19,44
	10	0	56,08	— 3,45	.....	.....	— 33,79	0	17,48
	11	0	57,41	— 3,82	.....	.....	— 33,30	0	19,11
	12	0	55,47	— 3,69	.....	.....	— 32,63	0	17,97
	13	0	53,10	— 3,57	.....	.....	— 31,96	0	16,39
	18	0	49,06	— 3,63	.....	.....	— 28,43	0	15,82
	24	0	44,01	— 4,35	— 2,60	+ 7,43	— 24,00	0	20,89
	25	0	46,57	— 5,27	— 3,29	+ 4,62	— 23,24	0	19,39
	26	0	47,25	— 5,08	.....	.....	— 22,49	0	21,01
	27	0	44,91	— 4,84	.....	.....	— 21,70	0	19,70
	28	0	42,65	— 4,74	.....	.....	— 20,92	0	18,32
	30	0	39,58	— 4,49	.....	.....	— 19,35	0	17,07

δ URSE MINORIS AT INFERIOR CULMINATION.									
1833		Observed A.R. correct- ed for Error of Clock.		Correction for			Aberration, &c.	Mean A.R. 1833.	
				Level.	Azimuth.	Collimation.			
		6h.						6h.	
		m.	s.	s.	s.	s.	s.	m.	s.
January	12	26	1,87	— 0,55	— 4,84	— 1,33	+ 16,17	26	11,32
	15	26	0,76	— 0,76	.....	— 1,33	+ 15,97	26	9,80
	16	26	1,42	— 1,06	.....	— 3,18	+ 15,90	26	8,24
	29	26	9,32	— 1,60	.....	— 6,68	+ 14,30	26	10,75
	31	26	8,32	— 1,73	.....	.....	+ 13,94	26	9,01
February	1	26	9,68	— 1,67	.....	.....	+ 13,76	26	10,25
	3	26	8,26	— 1,64	.....	.....	+ 13,39	26	8,49
	9	26	9,24	— 1,78	.....	.....	+ 12,11	26	8,05
	11	26	9,86	— 1,80	.....	.....	+ 11,63	26	8,17
	13	26	12,27	— 1,82	— 5,22	.....	+ 11,14	26	9,69
March	28	26	16,47	— 1,55	.....	.....	+ 6,80	26	9,52
	3	26	16,16	— 1,94	.....	.....	+ 5,81	26	8,13
	6	26	20,43	— 1,94	.....	.....	+ 4,81	26	11,40
	7	26	18,01	— 2,20	.....	.....	+ 4,48	26	8,39
	8	26	16,66	— 1,67	.....	.....	+ 4,15	26	8,24
	9	26	16,25	— 1,79	.....	.....	+ 3,82	26	6,37
	10	26	18,45	— 1,75	.....	.....	+ 3,48	26	8,28
	11	26	19,44	— 1,71	.....	— 4,72	+ 3,14	26	10,93
	13	26	17,52	— 1,70	.....	.....	+ 2,45	26	8,33
	14	26	17,54	— 1,75	.....	.....	+ 2,11	26	7,96
	15	26	17,64	— 1,78	.....	.....	+ 1,76	26	7,68
	16	26	18,89	— 1,80	.....	.....	+ 1,41	26	8,56
	17	26	18,00	— 1,82	.....	.....	+ 1,06	26	7,30
	18	26	18,97	— 1,84	.....	.....	+ 0,71	26	7,90
	19	26	18,87	— 1,80	.....	.....	+ 0,36	26	7,49
	21	26	18,64	— 1,83	.....	.....	— 0,35	26	6,52
	22	26	20,81	— 1,90	.....	.....	— 0,71	26	8,26
	23	26	20,24	— 2,00	.....	.....	— 1,06	26	7,14
	25	26	22,17	— 2,02	.....	.....	— 1,78	26	8,43

76 DRACONIS AT SUPERIOR CULMINATION.

76 DRACONIS AT SUPERIOR CULMINATION.									
1832		Observed A.R. correct- ed for Error of Clock.		Correction for			Aberration, &c.	Mean A.R. 1832.	
				Level.	Azimuth.	Collimation.			
		20h.						20h.	
		m.	s.	s.	s.	s.	s.	m.	s.
September	19	54	22,03	— 1,43	+ 3,28	— 1,30	— 6,20	54	16,38
	20	54	21,21	— 1,43	.....	— 1,23	— 6,08	54	15,75
	22	54	20,98	— 1,49	.....	.....	— 5,82	54	15,72
	24	54	20,32	— 1,40	.....	.....	— 5,56	54	15,41
	25	54	19,95	— 1,43	.....	.....	— 5,44	54	15,13
1833								1833	
October	21	54	9,80	+ 1,27	+ 2,99	— 0,86	— 0,76	54	12,44
	22	54	9,99	+ 1,28	.....	.....	— 0,60	54	12,80
	23	54	9,60	+ 1,19	.....	.....	— 0,44	54	12,48
	25	54	8,92	+ 1,18	.....	.....	— 0,11	54	12,12
	30	54	9,47	+ 1,09	.....	.....	+ 0,72	54	13,41
November	6	54	6,87	+ 0,57	.....	.....	+ 1,90	54	11,47

76 DRACONIS AT INFERIOR CULMINATION.									
1833		Observed A.R. correct- ed for Error of Clock.		Correction for			Aberration, &c.	Mean A.R. 1833.	
				Level.	Azimuth.	Collimation.			
		8h.						6h.	
		m.	s.	s.	s.	s.	s.	m.	s.
February	23	54	8,60	— 0,31	— 2,22	— 0,51	+ 6,88	54	12,44
March	11	54	10,73	— 0,31	.....	— 1,45	+ 5,72	54	12,47
	12	54	8,49	— 0,28	.....	+ 0,27	+ 5,63	54	11,89
	17	54	8,29	— 0,31	.....	.....	+ 5,12	54	11,15
	18	54	8,76	— 0,32	.....	.....	+ 5,00	54	11,49
	19	54	9,27	— 0,31	.....	.....	+ 4,89	54	12,90
	25	54	11,53	— 0,36	.....	— 1,45	+ 4,22	54	11,72
April	21	54	15,55	— 0,43	.....	.....	+ 0,48	54	11,93

Taking the means, and applying to the observations of 1833, the Annual variations to reduce them to the beginning of 1832, we have:

Mean A.R. Jan. 1, 1832.			
		h.	m. s.
I POLARIS.....S.P.	52 Observations in the first six months of 1832....	13	0 0,86
II ———— ————	{ 26 Observations towards the end of 1832, and in } Ann. Var. 17",86 { January 1833.	13	0 0,87
III ———— ————	{ 22 Observations in the months of November and } December 1833.	13	0 2,85
IV POLARIS.....	{ 62 Observations in November and December 1832, } and in January 1833.	1	0 2,93
V ———— ————	5 Observations in June and July 1833.....	1	0 6,39
VI ———— ————	{ 27 Observations in the months of November and } December 1833.	1	0 3,00
VII δ URSE MIN. S.P.	30 Observations in the three first months of 1832...	6	26 28,35
VIII ———— ————	{ 29 Observations in the three first months of 1833. }	6	26 27,83
IX δ URSE MIN....	14 Observations towards the middle of 1832.....	18	26 30,75
X 76 DRACONIS S.P. }	{ 8 Observations in March 1833..... }	8	54 15,72
Ann. Var. 3",72 }			
XI 76 DRACONIS....	5 Observations in September 1832.....	20	54 15,68
XII ———— ————	6 Observations in October and November 1833...	20	54 16,17

Examining these results attentively; we notice, from the near agreement of No. I with No. II and of No. VII with No. VIII, that any error of Azimuth affecting the observations at the beginning of 1832, affect equally those towards the end of that year and for the three first months of 1833: let this error be represented by a . No. V shews us that some larger error which we will call a^1 exists in the months of June and July 1833. To No. XII, or the observations for October and the early part of November 1833, we will assign an error a^2 . Finally, comparing No. III with No. VI we find that an

error of Azimuth of no consequence is attached to the observations between the 19th November and the end of the year 1833.

Taking the mean of I and II and of VII and VIII we obtain the following Equations.

$$\begin{array}{lcl} s. & & s. \\ 0,86 + 2,35 a \pm \frac{e}{\sqrt{n}} = & 2,93 - 2,32 a \pm \frac{e}{\sqrt{n^I}} & \\ 28,09 + 1,10 a \pm \frac{e^I}{\sqrt{n^{II}}} = & 30,75 - 1,07 a \pm \frac{e^I}{\sqrt{n^{III}}} & \\ 15,72 + 0,47 a \pm \frac{e^{II}}{\sqrt{n^{IV}}} = & 15,68 - 0,44 a \pm \frac{e^{II}}{\sqrt{n^V}} & \end{array}$$

where e , e^I , &c. represent the probable errors of a single observation and n , n^I , &c. the number of observation constituting each result. Considering the low altitude at which Stars below the pole are seen in this latitude, it must be expected that the unsteadiness consequent thereto will give rise to large errors of observation; in the case of the Pole Star, I propose to assume the mean error of a single observation to be two seconds; for δ Ursæ Minoris, one second; and for 76 Draconis seven tenth of a second—substituting these values, we determine:

$$\begin{array}{lcl} s. & & s. \\ 4,67 a = 2,07 \pm ,32 \text{ or } a = & 0,44 \pm ,07 & \\ 2,17 a = 2,66 \pm ,28 - a = & 1,22 \pm ,13 & \\ 0,91 a = 0,04 \pm ,40 - a = & - 0,05 \pm ,44 & \end{array}$$

giving to each of these results a weight in the inverse ratio of the probable error, we find $a = 0",63$; hence the Azimuth of the North and South Marks for the year 1832, and for the first 3 months of 1833; (instead of the results found at Page 30) will be N. $35",51$ W. and S. $60",69$ E. Computing now the observations of the Pole Star with these newly found errors of Azimuth and taking the mean we find:

Mean Right Ascension reduced to January 1, 1832.					
	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>h.</i>	<i>m.</i> <i>s.</i>
78 Observations <i>below</i> the Pole in 1832 and in January 1833.....	13	0	2,34	13	0 2,45
22 Observations <i>below</i> the Pole towards the end of 1833.....			2,85		
62 Observations <i>above</i> the Pole in 1832 and in January 1833.....	1	0	1,47	1	0 1,93
27 Observations <i>above</i> the Pole towards the end of 1833.....			3,00		

With the mean of these *1h. 0m. 2,19s.* We will now proceed to compute a^I or, since there are only five observations, it will perhaps be better to compute from these the Azimuth of the North and South Marks as follows:

1833		Observed A.R. correct- ed for Clock Error.		Correction for			Mean A.R. January 1, 1832.			
				Level.	Collimation.	Aberration, &c.				
		<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>h.</i>	<i>m.</i>	<i>s.</i>
June	27	1	0	10,11	+ 5,55	— 1,76	— 1,20	0	59	56,92 + 2,32 a^I
	28	1	0	8,16	+ 5,48	.....	— 1,97	0	59	54,13 + 2,32 a^{II}
July	7	1	0	19,17	+ 4,86	.....	— 8,90	0	59	57,79 + 2,32 a^{III}
	12	1	0	17,92	+ 4,77	.....	— 12,73	0	59	52,42 + 2,32 a^{IV}
	14	1	0	19,37	+ 4,73	.....	— 14,23	0	59	52,33 + 2,32 a^V

	<i>s.</i>						<i>s.</i>
Hence	5,27	=	2,32	a^I	or	a^I	= 2,27
—	8,06	=	2,32	a^{II}	—	a^{II}	= 3,47
—	4,40	=	2,32	a^{III}	—	a^{III}	= 1,90
—	9,77	=	2,32	a^{IV}	—	a^{IV}	= 4,21
—	9,86	=	2,32	a^V	—	a^V	= 4,29

employing these in conjunction with the registered variation of the centre wire from the North and South Marks at Page 24, when corrected for Collimation, we obtain the

AZIMUTH OF THE							
North Mark.				South Mark.			
	<i>s.</i>				<i>s.</i>		
N.	36,86	W.	....	S.	61,93	E.	
—	35,60	—	....	—	60,67	—	
—	37,13	—	....	—	62,29	—	
—	35,17	—	....	—	60,24	—	
—	34,77	—	....	—	59,84	—	
Mean N. 35,91 W.				S. 60,98 E.			

To compute a^{II} we must now with the value found above for a correct the place of 76 Draconis given at Pages 37 and 38, we have from

	Mean A.R. 1832.		
	<i>h.</i>	<i>m.</i>	<i>s.</i>
5 Observations in September 1832 above the Pole.....	20	54	15,40
8 Observations in March 1833 below the Pole.....	8	54	16,02

Taking the mean of these and putting it equal to No. XII, we have

$$\begin{array}{rcl}
 \begin{array}{ccc} h. & m. & s. \\ 12 & + & 8 \ 54 \ 15,71 \end{array} & = & \begin{array}{ccc} h. & m. & s. \\ 20 & 54 & 16,17 \end{array} - 0,44 \ a^{II} \\
 & \text{or } a^{II} = & 0'',98
 \end{array}$$

applying this to the numbers found at Page 32, which it will be recollected

have been employed from the 1st of July 1833; we obtain the Azimuths of the North and South Marks for the month of October, and for the early part of November 1833; and recapitulating, we have found altogether as follows.

	AZIMUTH OF THE MARK	
	to the North.	to the South.
	s.	s.
Observations of 1831.....	N. 35,34 W.	S. 62,31 E.
1832, and January February, and March of 1833....	— 35,51 —	— 60,69 —
June and July 1833.....	— 35,91 —	— 60,98 —
October and the early part of November 1833.....	— 34,77 —	— 59,84 —
November and December 1833.....	— 33,79 —	— 58,86 —

The results of 1832 from the number of observations employed are probably very near the truth; comparing them with those of 1831 it appears probable that the North Mark has remained firm, and that an alteration has taken place in the position of the South Mark to the amount of 1",6. The results for the months of June and July 1833, being determined from five observations of the Pole Star only, cannot be supposed very accurate; their tendency is however to support the values found for 1832. The results of October and the early part of November 1833, determined from five observations of γ Draconis, possess still less claims to accuracy, their tendency is however rather to support the results of 1832 than those of November and December 1833, these last from the number of observations employed we may presume to be a good determination; from these considerations we are led to conclude, that the position of the North Mark has remained unchanged from the time of the erection of the Transit Instrument (January 1831) up to the early part of November 1833 when it moved 1",4 towards the East = 0",64 Inches; that the South Mark shifted to the Westward towards the end of 1831 or the beginning of 1832 to the amount 1",61, and that a further alteration in the same direction took place to the amount 2",42 towards the beginning of November 1833: to determine the precise date of the former alteration we unfortunately have not a sufficient number of observations, but the uncertainty thereby introduced into one or two months observations (from an error of eight tenths of a second of space) will on inspecting the table shewing the correction for 1" error of Azimuth be found not to exceed 0",14 of time. For the more accurate determination of the date of the latter alteration, we will now examine the daily observations of the Azimuth of the centre wire from the North and South Marks for 1833: to get rid of the error of Collimation with which each of these is affected, we will examine the sum, or $N + S$; here we find the utmost regularity to exist up to the 26th of September when

an alteration to the amount of two seconds occurs, but in a direction contrary to the alteration for which we desire to account; we must consequently attribute it to some alteration of the Instrument itself: from this time up to the end of the year, one alteration only occurs deserving of notice; it is on the 11th of November, being in amount such as very nearly agrees with the alteration which we found above to have taken place towards the early part of November; I should hesitate to assume this day as the date of the alteration on these grounds were it not that another circumstance (the fall of four or five Inches of rain) which took place at this time, seems to render it probable that the foundation of the buildings forming the North and South Marks may have given way; to satisfy myself on this head, on a late occasion I paid a visit to the South Mark, which is the end of a very substantially built brick dwelling House, situated at about one and a half miles distant from the Observatory; here I found a crack in the wall about 2 Inches wide, which is just sufficient to account for the alterations above found; the North Mark is a square, (brick and chunam) pyramid, of weather beaten and rough exterior, thereby offering no means of detecting a small alteration of the foundation, but from the nature of the soil (a bed of loose sand) it is easy to believe that a considerable fall of rain might have produced the alteration in question; consequently, in computing the corrections for Azimuth for 1832 and for 1833 up to the 12th of November, we must employ the number

$$\frac{96'',20 - N - S}{2}$$

and from the 12th November 1833, to the end of the year

$$\frac{92'',65 - N - S}{2}$$

employing these with the observed Azimuth of the North and South Marks from the centre wire we obtain as follows:

1832	N. — S.	$\frac{96'',20 - N - S}{2}$	REMARKS.	1832	N. — S.	$\frac{96'',20 - N - S}{2}$	REMARKS.
Jan.	$\begin{matrix} s. \\ + 48,14 \end{matrix}$	$\begin{matrix} s. \\ + 24,03 \end{matrix}$		Jan.	$\begin{matrix} s. \\ + 54,80 \end{matrix}$	$\begin{matrix} s. \\ + 20,70 \end{matrix}$	
	2 51,69	22,25			8 51,35	22,42	
	3 51,97	22,11			9 51,94	22,13	
	5 52,41	21,89			10 54,40	20,90	
	6 51,83	22,18			11 52,48	21,86	

1832	N. — S.	96'' 20 — N — S.	REMARKS.	1832	N. — S.	96'' 20 — N — S.	REMARKS.
Jan. 12	+ 52,55	+ 21,82		March 15	+ 52,48	+ 21,86	
13	52,48	21,86		16	51,73	22,23	
14	51,12	22,54		17	52,27	21,96	
15	50,84	22,68		18	52,62	21,79	
16	51,70	22,25		19	52,79	21,70	
17	50,89	22,65	Mean of 18	20	52,48	21,86	
18	52,31	21,94	= + 22'',16	21	52,21	21,99	
19	50,86	22,67	New wires.	22	53,69	21,26	
Feb. 3	53,20	21,50	New wires.	23	53,77	21,21	
4	48,82	23,69		24	54,08	21,06	
5	50,86	22,67		25	53,97	21,11	
6	50,47	22,86		26	52,87	21,67	
7	48,57	23,81		27	54,34	20,93	
8	49,95	23,12		28	53,03	21,58	
9	49,91	23,14		29	52,80	21,70	
10	48,86	23,67		30	53,96	21,12	
11	49,28	23,46		31	52,19	22,00	
12	51,30	22,45		April 1	52,76	21,72	
13	50,88	22,66		2	52,86	21,67	
14	50,82	22,69		3	53,58	21,31	
15	51,37	22,41		4	53,82	21,19	
16	51,26	22,47		5	53,17	21,51	
17	51,33	22,43		6	53,48	21,36	
18	52,29	21,95		7	53,75	21,22	
19	50,39	22,90		8	53,54	21,33	
20	51,13	22,53		9	53,52	21,34	
21	51,65	22,27		10	55,30	20,45	
22	51,41	22,39		11	54,41	20,89	
23	51,57	22,31		12	53,54	21,33	
24	51,57	22,31		13	53,91	21,14	
25	51,69	22,25		14	53,43	21,38	
26	52,17	22,01	Mean of 24	15	53,37	21,41	Mean of 49
27	52,14	22,03	= + 22'',69	16	53,77	21,21	= + 21'',46
28	53,68	21,26		18	55,34	20,43	
29	53,44	21,38		19	55,59	20,30	
March 1	53,23	21,48		20	55,19	20,50	
2	52,96	21,62		21	55,17	20,51	
3	53,20	21,50		22	55,08	20,56	
4	52,48	21,86		23	55,05	20,57	
5	52,75	21,72		24	54,98	20,61	
6	52,50	21,85		25	54,96	20,62	
7	52,34	21,93		26	55,10	20,55	
8	52,20	22,00		27	55,34	20,43	
9	52,86	21,67		28	55,31	20,44	
10	54,64	20,78		29	55,65	20,27	
11	54,31	20,94		30	55,25	20,47	
12	53,23	21,48		May 1	55,54	20,33	
13	53,16	21,52		2	55,69	20,26	
14	52,85	21,67		3	55,44	20,38	
				4	55,44	20,38	
				5	55,68	20,26	

ERROR OF AZIMUTH.

1832	N. — S.	96", 20 — N — S.	REMARKS.	1832	N. — S.	96", 20 — N — S.	REMARKS.	
May				June				
6	+ 55,79	+ 20,20		28	+ 53,31	+ 21,44		
7	55,24	20,48		29	53,31	21,44		
8	55,52	20,34		30	53,21	21,49		
9	55,09	20,56		July	1	53,44	21,38	
10	55,57	20,31		2	53,31	21,44		
11	55,73	20,23		3	53,06	21,57		
12	54,75	20,72		4	53,55	21,32		
13	53,92	21,14		5	53,62	21,29		
14	54,06	21,07		6	53,37	21,41		
15	54,30	20,95		7	52,55	21,82	Mean of 17	
16	53,88	21,16		8	53,19	21,50	= + 21",40	
17	54,22	20,99						
18	55,89	20,16		16	100,26	— 2,03	Adjusted the In-	
19	55,15	20,52		17	100,40	— 2,10	strument.	
20	55,12	20,54		24	100,26	— 2,03		
21	55,16	20,52		25	100,57	— 2,16		
22	54,82	20,69		27	100,57	— 2,18		
23	54,65	20,77		29	100,16	— 1,98		
24	54,37	20,91		30	100,57	— 2,18		
25	54,29	20,95		31	101,40	— 2,60	Mean of 10	
26	54,47	20,86	Mean of 40	Aug.	1	100,39	= — 2",08	
27	54,20	21,00	= + 20",58	7	98,28	— 1,39		
28	54,61	20,79		13	103,82	3,81	A new set of	
29	54,45	20,87		14	102,26	3,03	lines.	
30	54,38	20,91		15	102,96	3,38		
31	54,15	21,02		17	102,16	2,98		
June	1	54,24	20,98	18	102,54	3,17		
2	54,11	21,04		19	101,71	2,75		
3	54,07	21,06		20	102,26	3,03		
4	54,03	21,08		21	101,80	2,80		
5	54,17	21,01		22	101,68	2,74		
6	54,58	20,81		23	101,24	2,52	Mean of 11	
7	54,16	21,02		24	101,02	2,41	= — 2",97	
8	54,33	20,93						
9	54,54	20,83		25	107,89	5,84		
10	54,51	20,84		26	108,81	6,30		
11	54,26	20,97		27	109,37	6,58		
12	53,71	21,24		28	109,00	6,40		
13	53,44	21,38		29	108,60	6,20		
14	53,92	21,14		30	108,73	6,26		
15	54,29	20,95		31	107,79	5,79		
16	54,26	20,97		Sept.	1	107,71	5,75	Mean of 9
17	53,48	21,36	Mean of 22	2	107,22	5,51	= — 6",07	
18	54,20	21,00	= + 21",04					
19				3	110,43	7,11		
20	53,10	21,55		4	109,88	6,84		
21	53,95	21,12		5	109,16	6,48		
22	54,17	21,01		6	109,46	6,63		
24	53,71	21,24		7	109,57	6,68		
25	53,24	21,48		8	109,92	6,86		
27	53,68	21,26		9	110,05	6,92		

1832	N. — S.	96'' 20 — N — S.	REMARKS.	1832	N. — S.	96'' 20 — N — S.	REMARKS.
	s.	s.			s.	s.	
Sept. 13	+109,68	— 6,74		Nov. 13	+107,95	— 5,87	
20	110,19	6,99		14	108,26	6,03	
21	110,22	7,01		15	107,78	5,79	Mean of 8
22	110,50	7,15		16	107,56	5,68	= — 5'',99
23	109,95	6,87					
24	109,44	6,62		17	104,58	4,19	
25	109,44	6,62		18	104,30	4,05	
26	109,88	6,84		19	105,45	4,62	
27	110,29	7,04		20	105,86	4,83	
28	110,50	7,15		21	106,46	5,13	
29	110,44	7,12		22	105,00	4,40	
30	109,64	6,72		23	105,07	4,43	
Oct. 1	110,22	7,01		24	104,82	4,31	
3	110,76	7,28		25	104,65	4,22	
6	109,70	6,75		26	105,30	4,55	
7	110,42	7,11		27	105,21	4,50	
8	110,25	7,02		28	105,48	4,64	
9	110,39	7,09		29	105,20	4,50	
10	110,30	7,05		30	104,89	4,34	
11	109,83	6,81		Dec. 1	104,68	4,24	
12	110,08	6,94		2	105,28	4,54	
13	109,94	6,87		3	106,14	4,97	
14	110,04	6,92	Mean of 31	4	105,45	4,62	
17	109,88	6,84	= — 6'',90	5	104,82	4,31	
				6	104,59	4,19	
19	111,95	7,87	Inverted the axis	7	104,65	4,22	
20	112,15	7,97	several times.	8	103,77	3,78	
21	112,10	7,95		9	103,91	3,85	
22	112,35	8,07	Mean of 5	10	104,17	3,98	
23	111,71	7,75	= — 7'',92	11	104,63	4,21	
				12	104,92	4,36	
24	110,47	7,13		13	104,92	4,36	Mean of 28
25	110,57	7,18		14	104,82	4,31	= — 4'',38
26	110,38	7,09					
27	110,12	6,96		15	102,06	2,93	
28	109,81	6,80		16	101,44	2,62	
29	109,70	6,75		17	103,36	3,58	
30	110,66	7,23		18	103,43	3,61	
31	110,49	7,14		19	102,94	3,37	
Nov. 1	110,25	7,02		20	102,99	3,39	
2	109,39	6,59		21	103,05	3,42	
3	110,04	6,92		22	102,32	3,06	
4	109,77	6,78		23	102,49	3,14	
5	109,35	6,58		24	101,84	2,82	
6	109,80	6,80		25	102,24	3,02	
7	109,26	6,53	Mean of 16	26	101,51	2,66	
8	109,80	6,80	= — 6'',89	27	101,63	2,71	
				28	102,26	3,03	
9	108,56	6,18	A new set of lines	29	102,93	3,36	
10	108,53	6,16	put in.	30	102,98	3,39	Mean of 17
11	108,24	6,02		31	103,56	3,68	= — 3'',16
12	108,60	6,20					

ERROR OF AZIMUTH.

1833	N. — S.	96'' 20 — N — S.	REMARKS.	1833	N. — S.	96'' 20 — N — S.	REMARKS.
	s.	s.			s.	s.	
Jan. 1	+103,45	— 3,62		Feb. 19	+102,87	— 3,34	
2	102,73	3,26		20	102,69	3,24	
3	102,30	3,05		21	103,41	3,60	
4	102,43	3,11		22	104,10	3,95	
5	102,84	3,32	Inverted the axis.	23	103,65	3,73	
6	102,70	3,25		24	103,61	3,70	
7	102,73	3,26		25	104,19	3,99	
8	102,74	3,27		26	103,75	3,77	
9	102,56	3,18		27	103,41	3,60	
10	103,05	3,42		28	103,75	3,77	
11	102,67	3,23		March 1	103,10	3,45	
12	103,11	3,45	Mean of 14	2	103,41	3,60	
13	101,38	2,59	= — 3'',18	3	103,78	3,79	
14	101,28	2,54	Inverted the axis.	4	104,29	4,04	
15	102,24	3,02		5	103,48	3,64	
17	101,18	2,49		6	103,38	3,59	
18	103,86	3,83	Inverted the axis.	7	103,96	3,88	
19	103,63	3,71		8	104,75	4,28	
20	104,04	3,92		9	102,62	3,21	
21	104,16	3,98		10	103,24	3,52	
22	103,79	3,79		11	103,44	3,62	
23	104,26	4,03	Mean of 7	12	103,27	3,53	
24	103,20	3,50	= — 3'',82	13	103,33	3,56	
25	102,69	3,24		14	103,45	3,62	
26	101,79	2,79		15	102,83	3,31	
27	101,93	2,86		16	104,07	3,93	
28	102,30	3,05		17	104,89	4,34	
29	101,90	2,85		18	103,37	3,58	
30	102,31	3,05		19	103,51	3,65	
31	102,76	3,28		20	102,06	3,38	
Feb. 1	102,58	3,19		21	103,47	3,63	
2	101,55	2,67		22	103,82	3,81	
3	101,94	2,87		23	103,54	3,67	
4	102,07	2,93	Mean of 12	24	102,58	3,19	
5	102,63	3,21	= — 3'',00	25	102,79	3,29	
6	103,34	3,57		26	102,41	3,10	
7	102,66	3,23		27	103,34	3,57	
8	103,51	3,65		28	103,13	3,46	
9	103,10	3,45		29	103,20	3,50	
10	103,38	3,59		30	103,34	3,57	
11	103,93	3,86		31	103,93	3,86	
12	102,38	3,09		April 1	103,17	3,48	
13	103,00	3,40		2	103,41	3,60	
14	103,10	3,45		3	103,34	3,57	
15	103,68	3,74		4	103,92	3,86	
16	103,21	3,50		5	103,62	3,71	
17	103,38	3,59		6	103,76	3,78	
18	103,51	3,65		7	103,97	3,88	
				8	103,17	3,48	
				9	103,48	3,64	
				10	103,51	3,65	
				11	104,34	4,07	

1833	N. — S.	96'' 20 — N — S.	REMARKS.	1833	N. — S.	96'' 20 — N — S.	REMARKS.
	s.	s.			s.	s.	
April 12	+103,41	— 3,60		June 1	+103,18	— 3,49	
13	102,92	3,36		2	103,04	3,42	
14	103,17	3,48		3	102,97	3,38	
15	103,31	3,55		4	103,01	3,40	
16	103,34	3,57		5	103,07	3,43	
17	103,24	3,52		6	103,07	3,43	
18	102,99	3,39		7	102,32	3,06	
19	103,02	3,41		8	103,17	3,48	
20	103,03	3,41		9	102,66	3,23	
21	102,86	3,33		10	102,95	3,37	
22	103,55	3,67		11	102,98	3,39	
23	103,16	3,48		12	102,94	3,37	
24	103,27	3,53		13	102,90	3,35	Mean of 25
25	103,69	3,74		14	103,21	3,50	= — 3'',42
26	103,14	3,47					
27	103,62	3,71		19	105,19	4,49	
28	103,34	3,57		20	105,03	4,41	
29	103,31	3,55		22	104,86	4,33	
30	103,62	3,71		23	104,86	4,33	Mean of 5
May 1	102,10	2,95		25	104,21	4,00	= — 4'',31
2	102,93	3,36					
3	102,75	3,28		26	103,76	3,78	
4	103,03	3,41		27	103,34	3,57	
5	103,52	3,66		28	103,21	3,50	
6	103,10	3,45		July 1	103,10	3,45	
7	102,75	3,27		2	103,50	3,65	
8	103,21	3,50	Mean of 94	3	103,31	3,55	
9	103,16	3,48	= — 3'',56	4	103,35	3,57	
10	102,83	3,31	I applied fresh varnish to the wires.	5	103,33	3,56	
				6	103,29	3,54	
11	103,55	3,67		7	103,14	3,47	
12	104,01	3,90		8	103,24	3,52	
13	103,97	3,88		9	103,15	3,47	
14	103,70	3,75		10	103,21	3,50	
15	103,49	3,64		11	103,07	3,43	
16	104,44	4,12		12	103,83	3,81	
17	104,10	3,95		13	103,27	3,53	
18	104,64	4,22		14	103,20	3,50	
19	106,07	4,93	Mean of 10	15	103,04	3,42	
20	105,16	4,48	= — 4'',05	16	102,05	2,92	
				17	102,66	3,23	
21	103,41	3,60		18	102,12	2,96	
22	102,93	3,36		19	102,22	3,01	
23	102,93	3,36		20	102,90	3,35	
24	103,27	3,53		22	102,93	3,37	
25	103,27	3,53		23	103,36	3,58	
26	102,97	3,38		24	102,96	3,38	
27	102,93	3,36		25	102,77	3,29	
28	103,14	3,47		26	102,83	3,31	
29	103,45	3,62		28	102,66	3,23	
30	103,17	3,48		30	102,25	3,02	
31	103,45	3,62		31	101,95	2,87	

ERROR OF AZIMUTH.

1833	N. — S.	96",20 — N — S.	REMARKS.	1833	N. — S.	96",20 — N — S.	REMARKS.
Aug.	<i>s.</i>	<i>s.</i>		Sept.	<i>s.</i>	<i>s.</i>	
1	+102,05	2,92		28	+107,17	5,48	
2	101,77	2,78		29	107,58	5,69	
3	101,26	2,53		30	106,70	5,25	
4	102,11	2,95		Oct. 1	107,41	5,60	
5	102,66	3,23		3	107,79	5,80	
6	102,07	2,93		4	107,23	5,51	
7	102,55	3,17		5	107,24	5,52	
8	101,56	2,68		6	107,17	5,49	
9	101,33	2,57		7	107,17	5,49	
10	101,76	2,78		8	107,23	5,51	
11	102,08	2,94		9	107,25	5,52	
12	101,83	2,81		11	107,27	5,53	
13	102,26	3,03		13	106,97	5,38	
14	101,54	2,67		14	106,19	5,00	
15	101,64	2,72		15	106,29	5,04	
16	101,33	2,57		16	106,12	4,96	
17	101,14	2,47		17	106,46	5,13	
19	101,76	2,78		18	106,09	4,94	
20	101,73	2,77		21	106,77	5,28	
21	102,70	3,25		22	106,64	5,22	
22	101,98	2,89		23	106,92	5,36	
23	101,73	2,77		24	106,98	5,39	
24	102,57	3,18	Mean of 55	25	105,53	4,67	
25	102,50	3,15	= — 3",18	Nov. 1	105,19	4,50	
26	104,50	4,15		3	105,88	4,84	
27	103,88	3,84		5	105,81	4,81	
28	106,12	4,96		7	106,77	5,28	Mean of 29
30	105,45	4,62		9	105,57	4,68	= — 5",24
31	105,09	4,44		15	100,53	3,94	
Sept. 1	105,38	4,59		16	100,77	4,06	
2	105,77	4,78		17	100,55	3,95	
8	105,31	4,55		18	99,26	3,30	
9	105,93	4,86		19	99,20	3,27	
10	105,52	4,66		20	99,47	3,41	
11	106,21	5,00		21	98,71	3,03	
12	104,90	4,35		22	99,33	3,34	
13	104,40	4,10		23	98,54	2,94	
14	104,83	4,31		24	98,82	3,08	
15	104,54	4,17		25	98,47	2,91	
16	104,72	4,26		26	98,20	2,77	Mean of 13
17	104,95	4,37		27	97,95	2,65	= — 3",28
18	104,71	4,25		28	96,95	2,15	
19	104,69	4,24		29	96,68	2,01	
20	105,26	4,53		30	96,88	2,12	
21	105,09	4,44		Dec. 1	97,27	2,31	
23	105,92	4,86		2	96,71	2,03	
24	104,92	4,36		3	96,95	2,15	
25	104,73	4,26	Mean of 25	4	96,51	1,93	
26	104,70	4,25	= — 4",45	5	96,74	2,04	
27	106,24	5,02		6	96,92	2,13	

1833	N. — S.	92",65 — N — S.	REMARKS.	1833	N. — S.	92",65 — N — S.	REMARKS.
Dec. 7	+ 97,34	— 2,34		Dec. 19	+ 96,68	— 2,01	Mean of 23
8	97,34	2,34		20	95,93	1,64	= — 2",43
9	97,27	2,31		24	94,69	1,02	Inverted the axis.
10	96,10	1,72		25	94,76	1,05	
11	95,89	1,62		26	96,58	1,96	Inverted the axis.
12	96,03	1,69		27	95,21	1,28	
13	96,83	2,09		28	95,45	1,40	
14	96,33	1,84		29	95,45	1,40	
15	96,57	1,96		30	95,02	1,18	Mean of 8
16	96,89	2,12		31	94,90	1,12	= — 1",30
17	97,85	2,60					
18	96,33	1,84					

The following table exhibits the amount of error caused by an uncertainty of one second in the position of the Instrument for *unreduced* observations; and the amount of error *after reduction*, or the error which may be expected to attach to the places of the Sun, Moon, Planets, and fixed Stars which hereafter follow, in case an error of Azimuth to this amount has been committed.

North Polar Distance of the Object.	Correction for 1s. Error of Azimuth.	Error of the computed Result.
20	+ 0,1634	+ 0,178
25	+ 0,1245	+ 0,140
30	+ 0,0974	+ 0,112
35	+ 0,0776	+ 0,093
40	+ 0,0623	+ 0,077
45	+ 0,0499	+ 0,065
50	+ 0,0394	+ 0,054
55	+ 0,0304	+ 0,045
60	+ 0,0224	+ 0,037
65	+ 0,0152	+ 0,030
70	+ 0,0084	+ 0,023
75	+ 0,0023	+ 0,017
80	— 0,0036	+ 0,011
85	— 0,0095	+ 0,006
90	— 0,0151	0,000
95	— 0,0208	— 0,006
100	— 0,0265	— 0,011
105	— 0,0324	— 0,017
110	— 0,0387	— 0,024

North Polar Distance of the Object.		Correction for 1s. Error of Azimuth,		Error of the computed Result.
		"		"
115	....	— 0,0455	....	— 0,030
120	....	— 0,0526	....	— 0,037
125	....	— 0,0609	....	— 0,046
130	....	— 0,0696	....	— 0,055
135	....	— 0,0801	....	— 0,065
140	....	— 0,0922	....	— 0,077
145	....	— 0,1077	....	— 0,093
150	....	— 0,1276	....	— 0,112
155	....	— 0,1544	....	— 0,139
160	....	— 0,1934	....	— 0,178

REDUCTIONS EMPLOYED.

In the reductions of the Observations for 1832 and 1833, I have continued to employ the numbers *a*, *b*, *c*, *d*, &c. given in the Catalogue of the Royal Astronomical Society, and for the numbers of A, B, C, D, I have availed myself of the values given in the Supplements to the Nautical Almanac, which I have reduced to nine o'clock in the evening for the Meridian of Madras; in the case of the Pole Star, and δ Ursæ Minoris the computations have been made for the moment of Transit.

ON THE CLOCK ERRORS AND CLOCK RATES.

In the result of Observations for 1831 Vol. I. I have explained at some length the method employed for the determination of the error and rate of the clock, and have exhibited the degree of accuracy to which the observa-

tions lay claims; on the present occasion I have therefore thought it sufficient to refer to these, and to state, that the reduction of the Observations for 1832 and 1833, have been effected agreeably to the plan there laid down with but one slight exception, namely; in the reductions for 1831, I had employed the Greenwich Catalogue of 720 Stars, whereas in the reduction for 1832 and 1833; those Stars only of this Catalogue have been employed, which are situated between the limits of 65° and 115° of North Polar Distance; by this arrangement we are enabled to correct the Right Ascension of a Star for any small error of Level, Azimuth, or Collimation which may have been committed in the reduction, from inequality of the Pivots, or from a wrong assumption of the position of either of the Marks with regard to the meridian: independant of this consideration, the more rapid motion of Equatoreal Stars through the field of view recommends them to preference where *general* accuracy only is our aim.

With regard to the accuracy of the determination of the Clock Errors, I may very safely claim for them an increased degree above that of 1831, and considering that with one exception only the same observers have been employed, this of course could only be expected; the exception I allude to is the exclusion of the Assistant S from making further observations; it will be recollected that towards the beginning of 1831 the observers S. M. A. R. and T. or my four Assistants and self agreed to two or three tenths of a second of time in estimating the time of Transit of a Star, whereas towards the end of that year, the Assistant S had acquired a habit of observing which gave rise to a difference of two seconds of time from the other three Assistants; in consequence of my absence from Madras at this time, (being otherwise employed in Calcutta) the evil was allowed to exist up to the middle of the year 1832, since which time I have not allowed the Assistant S to make any observations, and (agreeable to the plan followed in 1831) have employed only those observations of his before this time, which are situated in the vicinity of *known* Stars, and have rejected the rest; with regard to the Assistants M. R. and A. they continue up to the present time steadily to observe within two tenths of a second of myself and with about the same degree of accuracy. With a view to discover the cause of the difference above found, I lately tried the effect of pressure upon the Telescope whilst observing, this being the only means by which so large a discordance as two seconds might be accounted for, the result was, that a pressure of 5 pounds upon the end of the Telescope did not produce a deviation to the amount of 10 seconds of space; a fact, which (although it leaves us unsatisfied as to the present enquiry) speaks very satisfactorily with regard to the stability of the Telescope. With regard to

the going of the Clock ; it will be remarked that its irregularities are both large and frequent ; this is partly due to an ill constructed click, which I have not been able to get remedied at Madras, whereby the Clock has stopt, or tript, on the days of winding, (on the 1st and 15th of each month) ; and partly from the decayed state of the Clock case, which has allowed spiders to creep into the works ; the latter cause has I hope now been removed by a new plank which I lately caused to be screwed to the back of the case, and the former it must be recollected does not affect the reduced places of the Sun or Stars ; for the irregularities with which we *have* to contend, I may remark, that the method of reduction (the employment of the places of several known Stars, and separating the results into sets occupying two or three hours of A. R. only) keeps so severe a check upon the error of the Clock ; that an error of one tenth of a second of time from this cause is of unfrequent occurrence ; in a few cases however where uncertainty to the amount of 3 or 4 tenths has occurred, I have rejected the observations altogether.

1832	Clock Rate by		Difference.	REMARKS.	1832	Clock Rate by		Difference.	REMARKS.
	Sun.	Stars.				Sun.	Stars.		
Jan.	s.	s.	s.		Feb.	s.	s.	s.	
3	+ 2,43	+ 2,21	0,22		19	.....	+ 2,98		
5	.....	+ 2,51			20	+ 3,09	+ 3,15	0,06	
6	.....	+ 2,03			21	+ 2,98	+ 2,87	0,11	
10	+ 2,07	+ 1,92	0,15		22	+ 2,74	+ 2,75	0,01	
12	+ 1,72	+ 1,79	0,07		23	+ 3,03	+ 2,72	0,31	
13	.....	+ 2,84			24	+ 2,50	+ 2,72	0,22	
14	+ 2,27	+ 2,00	0,27		25	+ 3,28	+ 2,70	0,58	
16	.....	+ 2,66			26	.....	+ 2,94		
26	+ 2,50	+ 2,77	0,27		27	.....	+ 2,90		
27	+ 2,02	+ 2,27	0,25		28	.....	+ 2,70		
29	+ 2,07	+ 2,20	0,13		29	.....	+ 3,13	.....	Stopt(I presume)
30	.....	+ 2,31			March 1	.....	+ 0,36		two seconds in
31	+ 3,10	+ 3,02	0,08		2	.....	+ 2,30		winding.
Feb. 1	.....	.....	.....	The Clock stopt	3	+ 2,48	+ 2,40	0,08	
2	.....	+ 2,57		in winding.	5	+ 2,64	+ 2,55	0,09	
3	.....	.....	.....	Stopt the Clock	6	+ 2,45	+ 2,26	0,19	
4	+ 2,39	+ 2,37	0,02	four minutes.	7	+ 1,99	+ 2,00	0,01	
5	+ 2,39	+ 2,24	0,15		8	+ 2,14	+ 2,44	0,30	
6	+ 2,62	+ 2,63	0,01		9	+ 2,12	+ 2,08	0,04	
7	+ 2,18	+ 2,04	0,14		10	+ 2,31	+ 2,50	0,19	
8	+ 2,19	+ 2,13	0,06		11	.....	+ 2,50		
9	+ 2,22	+ 2,10	0,12		12	.....	+ 2,46		
10	+ 1,82	+ 1,88	0,06		13	+ 2,41	+ 2,22	0,19	
11	+ 2,15	+ 1,95	0,20		14	+ 2,52	+ 2,52	0,00	
12	.....	+ 2,08			15	+ 1,87	+ 2,23	0,36	
13	.....	+ 2,01			16	+ 2,29	+ 2,25	0,04	
14	.....	+ 1,94			17	+ 2,27	+ 2,60	0,33	
15	+ 1,89	+ 2,38	0,49		18	+ 2,13	+ 2,39	0,26	
18	.....	+ 2,99			19	+ 2,07	+ 2,13	0,06	

1832	Clock Rate by		Difference.	REMARKS.	1832	Clock Rate by		Difference.	REMARKS.
	Sun.	Stars.				Sun.	Stars.		
	s.	s.	s.			s.	s.	s.	
March 20	+ 2,26	+ 2,10	0,16		May 14	+ 0,92		The Clock tript in winding. I removed the head of the Clock and cleaned the scapement, &c. and applied fresh oil.
21	+ 1,81	+ 2,05	0,24		15	+ 1,14	+ 4,68	....
22	+ 2,04	+ 1,92	0,12		16	.....	+ 3,29	
23	.....	+ 2,23			17	.....	+ 9,62	....
24	+ 2,24	+ 2,14	0,10		18	.....	— 0,20	
25	+ 2,02	+ 2,12	0,10		19	.....	— 1,57	
26	+ 2,13	+ 2,28	0,15		20	.....	— 1,64	
27	+ 2,27	+ 2,40	0,13		21	.....	— 1,67	
28	+ 2,72	+ 3,05	0,33		22	.....	— 2,00	
29	.....	+ 3,05			23	.....	— 1,66	
30	.....	+ 3,43			25	— 1,22		
31	+ 3,65	+ 3,83	0,18		26	— 0,64	— 1 05	0,41	
April 1	.....	+ 3 21			27	.....	— 1,08	
2	+ 3,68	+ 3,73	0,05		28	.....	— 1,02	
3	+ 3,53	+ 3,33	0,20		29	.....	— 0,72	
4	+ 2,99	+ 3,05	0,06		30	.....	— 0,81	
5	+ 3,02	+ 2,97	0,05		31	.....	— 0,87	
6	+ 3,00	+ 2,90	0,10		June 1	— 0,80	— 1,05	0,25	
7	+ 2,83	+ 2,83	0,00		2	— 1,83			
9	+ 2,71	+ 3,15	0,44		4	— 1,89	— 1,65	0,24	
10	+ 3,29	+ 3,13	0,16		5	— 2,37	— 2,44	0,07	
11	.....	+ 3,09	....	Stopt the Clock	7	— 2,22		
12	.....	+ 3,40		four minutes and	8	— 2,61		
13	.....	+ 2,57		lengthened the	9	— 2,27	— 2,30	0,03
14	.....	+ 2,80	....	pendulum.	10	.....	— 2,54	
15	.....	+ 0,21		The Click re-	11	— 2,50	— 2,54	0,04
16	.....	0,00		fused to do its duty	12	— 2 72	— 2,36	0,36
17	.....	— 0,24		in consequence	13	— 2,48	— 2,82	0,34
18	— 0,43	— 0,36	0,07	the Clockstopt for	14	— 3,27	— 3,18	0,09	
19	— 0,46	— 0,43	0,03	several seconds in	15	— 3,00	— 2,86	0,14	
20	— 0,23			winding.	16	— 2,78	— 2,90	0,12	
21	— 0,65	— 0,98	0,33		18	— 2,71			
22	— 0,10	— 0,45	0,35		23	— 2,88			
23	— 0,36	— 0,54	0,18		27	+ 3,48			
24	— 0,24				28	+ 4,99			
25	— 0,85				July 2	+ 2,31			
26	— 0,03	— 0,38	0,35		3	+ 0,65			
27	+ 0,20	0,00	0,20		5	+ 6,34			
28	— 0,56	— 0,46	0,10		7	.....	.....	....
29	— 0,14	— 0,29	0,15		16	.....	— 5,00	
30	+ 0,02	+ 0,05	0,03		20	— 4,61			
May 1	— 0,06	0,00	0,06		25	— 5,27	— 5,05	0,22	
2	+ 0,14	— 0,37	0,51		26	— 5,20			
3	— 0,44	+ 0,11	0,55		28	— 5,54			
4	— 0,03	— 0,27	0,24		29	.....	— 5,43	
5	— 0,46	— 0,27	0,19		30	— 5,48			
6	— 0,55	— 0,19	0,36		Aug. 1	+ 7,54			
7	— 0,12	— 0,41	0,29		2	+ 6,88			
8	— 0,09	— 0,16	0,07		3	+ 7,46			
9	+ 0,21	— 0,09	0,30		5	+ 8,49			
11	+ 4	.....	....	The Clock pro-	7	.....	.....	....
12	— 0,35	0,00	0,35	bably tript 4					
13	.....	+ 0,65		seconds.				

ON THE CLOCK ERRORS AND CLOCK RATES.

1832		Clock Rate by		Difference.	REMARKS.	1832		Clock Rate by		Difference.	REMARKS.	
		Sun.	Stars.			Sun.	Stars.					
		s.	s.	s.				s.	s.	s.		
Aug.	8	+15,81	.....	.....	Regulated.	Oct.	23	+ 1,07	+ 1,01	0,06	Stopt the Clock two minutes.
	14	- 4,51	- 5,00	0,49			24	+ 0,91	+ 0,87	0,04		
	17	- 5,14	- 5,00	0,14			25	.....	+ 0,14	.....	
	18	- 5,14	- 5,28	0,14			26	+ 0,55	+ 0,29	0,26		
	19	- 5,38					27	+ 0,32	+ 0,37	0,05		
	20	- 5 13	- 5,19	0,06			28	.....	+ 0,41		
	21	- 5,46					29	.....	+ 1,31		
	22	- 5 09					30	+ 1,46	+ 1,27	0,19		
	23	- 5,49	- 5,27	0,22			31	+ 0,77	+ 0,42	0,35		
	24	- 5,39				Nov.	1	+ 0,40	+ 0,20		0,20
	25	- 5,34					2	.....	+ 0,54		
	27	.....	- 5,46				3	+ 0,42	+ 1,07	0,65	
	28	- 4,85	- 5,08	0,23			4	+ 5,26	+ 8,91			
	29	- 5,33					5	.....	+ 8,42		
	30	- 5,36	- 5,27	0,09			7	.....	.....	.....
	31	- 5,05	- 3,82			9	.....	- 4,39	.....		
Sept.	1	.....	+ 0,23		Advanced the Clock 3 mi- nutes.	10	- 4,55	- 4,49	0,06	I cleaned the Clock.	
	4	+ 1,70	+ 1,13	0,57			12	.....	- 4,57		
	6	.....	+ 1,17				13	- 4,47	- 4,47		0,00
	7	+ 1,20	+ 1,45	0,25			15	- 4,61	- 4,52		0,09	
	9	+ 1,88	+ 2,25	0,37			16	- 4,51	- 4,33		0,18	
	11	.....	+ 0,33				17	- 4,06	- 4,20		0,14
	12	.....	+ 0,64				18	- 4,25	- 4,06		0,19
	14	.....	+ 0,58				19	- 4,38	- 4,22		0,16
	15	+ 0,56	+ 1,01	0,45			21	- 3,79				
	19	.....	+ 1,76				22	- 4,53	- 3,90		0,63
	21	- 5,07					23	- 4,11	- 4,23		0,12	
	22	- 5,11	- 5,06	0,05			24	- 4,26	- 4,12		0,14	
	23	- 5,05	- 5,11	0,06			25	- 4,49	- 4,56		0,07	
	24	- 5,55	- 5,09	0,46			26	- 4,10				
	25	- 4,97					27	- 4,44				
	26	- 4,37	- 4,43	0,06		29	.....	- 4,56			
	27	- 4,24	- 4,39	0,15		30	- 4,58	- 4,53	0,05			
	28	- 4,25				Dec.	1	- 4,87				
	30	.....	- 1,39			4	.....	- 4,65			
Oct.	1	.....	+10,23	.....	Wound up the Clock.	5	- 4,42	- 4,40	0,02		
	2	+12,59	+14,53				6	.....	- 4,47		
	3	.....	+14,04				7	- 4,41	- 4,47	0,06	
	4	.....	+12,62				8	- 3,93	- 4,20	0,27	
	5	.....	+ 8,97				9	- 4,56	- 4,15	0,41	
	6	+ 7,94	+ 7,84	0,10			10	- 4,40	- 4,24	0,16		
	7	+10,07					11	.....	- 4,40		
	8	+ 6,85	+ 5,56				12	.....	- 4 81		
	9	+ 4,36	+ 4,42	0,06			14	- 4,61	- 4,67	0,06		
	11	+ 4,17	+ 4,19	0,02			15	- 4,82	- 4,84	0,02		
	12	+ 3,70	+ 4,76				16	.....	- 4,24		
	13	+ 4,43	+ 4,22	0,21			17	.....	- 4 12		
	14	.....	+ 5,11				18	.....	- 4,79		
	15	+ 4,77	.....	.....		Wound up the Clock.	19	- 4,02	- 4,43	0,41	
	19	- 0,10					20	- 4,76	- 4,46	0,30	
	20	- 1,18					21	- 4,61	- 4,89	0,28		
	21	+ 0,32	+ 1,00				22	- 5,17				
	22	+ 0,95	+ 1,26	0,31			23	- 5,14				

1832	Clock Rate by		Difference.	REMARKS.	1833	Clock Rate by		Difference.	REMARKS.
	Sun.	Stars.				Sun.	Stars.		
Dec. 24	s. — 4,76	s. — 4,83	s. 0,07		Feb. 17	s. + 0,89	s. + 0,73	s. 0,16	
25	— 4,51	— 4,70	0,19		18	+ 0,67	+ 0,64	0,03	
26	— 4,91	— 4,53	0,38		19	+ 0,81	+ 0,74	0,07	
27	— 4,51	— 4,93	0,42		20	+ 0,58	+ 0,27	0,31	
28	— 4,63				21	+ 0,62			
29	— 4,62				22	+ 1,69			
					23	.....	.....	.....	The Clock tript 9 seconds; I ap- plied fresh oil to the escapement.
1833					24				
Jan. 3	— 3,74	— 3,56	0,18		25				
4	— 3,41	— 3,37	0,04		26	+ 0,27	+ 0,46	0,19	
5	— 3,52	— 3,17	0,35		27	+ 0,79	+ 0,73	0,06	
6	— 3,29	— 3,28	0,01		28	+ 2,08			
7	— 3,40				March 1	+ 1,70	+ 1,18	0,52	
8	— 3,74	— 3,63	0,11		2	+ 0,96	+ 1,05	0,09	
9	— 3,34	— 3,50	0,16		3	+ 0,80	+ 0,52	0,28	
10	— 3,73	— 3,99	0,26		4	+ 0,32	+ 0,63	0,31	
11	— 3,74	— 3,56	0,18		5	+ 0,67	+ 0,88	0,21	
12	— 3,44	— 2,98	0,46		6	+ 0,98	+ 0,65	0,33	
14	— 2,80	— 2,93	0,13		7	+ 0,38	+ 0,52	0,14	
15	.....	+ 0,25	.....	Regulated the Clock.	8	+ 0,46	+ 0,74	0,28	
16	+ 0,20	+ 0,25	0,05		9	+ 1,23	+ 0,90	0,33	
17	+ 0,74	+ 0,64	0,10		10	.....	+ 0,79		
18	+ 0,86	+ 0,62	0,24		11	+ 0,60	+ 1,00	0,40	
19	+ 0,44	+ 0,50	0,06		12	+ 0,67	+ 0,46	0,21	
20	+ 0,68	+ 0,20	0,48		13	+ 0,40	+ 0,46	0,06	
21	— 0,04	+ 0,06	0,10		14	+ 0,41	+ 0,46	0,05	
22	+ 0,14	+ 0,18	0,04		15	+ 1,32	+ 1,86	0,54	
23	.....	— 0,05			16	.....	+ 3,86		
24	.....	— 0,23			17	.....	+ 3,97		
25	.....	— 0,14			18	.....	+ 1,80		
26	— 0,20	0,00	0,20		19	+ 1,17	+ 1,61	0,44	
27	.....	— 0,42			20	+ 2,00	+ 2,00	0,00	
28	— 0,12	— 0,48	0,36		21	+ 1,42	+ 0,80	0,62	
29	— 0,21	— 0,46	0,25		22	+ 0,58	+ 0,84	0,26	
30	— 0,13	0,00	0,13		23	+ 0,65	+ 0,65	0,00	
31	— 0,01	+ 0,04	0,05		24	.....	+ 1,93		
Feb. 1	+ 0,26	+ 0,16	0,10		25	+ 1,27	+ 0,63		
2	+ 0,31	+ 0,12	0,19		26	+ 0,69	+ 0,95	0,26	
3	+ 0,17	+ 0,15	0,02		27	+ 0,80	+ 0,88	0,08	
4	+ 0,11	— 0,11	0,22		28	+ 0,83	+ 0,65	0,18	
5	— 0,32	— 0,12	0,20		29	+ 0,70	+ 0,62	0,08	
6	— 0,10	0,00	0,10		30	+ 0,47	+ 0,43	0,04	
7	+ 0,02	.....			31	+ 0,50	+ 0,54	0,04	
8	+ 0,20	+ 0,05	0,15		April 1	+ 0,33	+ 0,60	0,27	
9	+ 0,56	+ 0,74	0,18		2	+ 0,83	+ 0,60	0,23	
10	.....	+ 0,64			3	+ 0,39	+ 0,35	0,04	
11	+ 0,63	+ 0,39	0,24		4	+ 0,60	+ 1,46		
12	+ 0,74	+ 0,78	0,04		5	.....	+ 1,87		
13	+ 0,81	+ 0,89	0,08		6	.....	+ 0,74		
14	+ 0,50	+ 0,85	0,35		7	.....	+ 1,61		
15	+ 0,59	+ 0,58	0,01		8	.....	+ 2,51		
16	+ 0,59	+ 0,65	0,06		9	+ 2,72	+ 2,88	0,16	
					10	+ 3,23			

1833	Clock Rate by		Difference.	REMARKS.	1833	Clock Rate by		Difference.	REMARKS.
	Sun.	Stars.				Sun.	Stars.		
	s.	s.	s.			s.	s.	s.	
April 11	+ 1,89				June 11	.....	- 4 51		
13	.....	+ 2,80			12	- 4 66	- 4,62	0,04	
14	.....	+ 3,23			13	- 4,63	- 4,81	0,18	
15	+ 6,53	+ 8,14			14	- 4,70	- 4,50	0,20	
16	+ 7,57	+ 5,83	.....	I found a fine	19	.....	.....	.....	Regulated the
17	+ 2,68	+ 2,25	0,43	cobweb attached	21	.....	- 0,02		Clock.
18	+ 2,11	+ 2,37	0,26	to the escapement	22	.....		
19	+ 2,69	+ 3,00	0,31	which I removed.	23	.....	- 0,20		
20	.....	.....	.....	Regulated the	26	- 1,52			
21	.....	- 2,01		Clock.	27	- 2,14			
22	- 1,84	- 2,05	0,21		28	- 2,44			
23	- 2,12	- 2,40	0,28		29	- 3,01	- 3,31	0,30	
24	- 2,48	- 2,37	0,11		30	.....	- 3,78		
25	- 2,16	- 2 35	0,19		July 1	- 3,91	- 4,52		
26	.....	- 2,12			2	- 4,21	- 4,20	0,01	
27	- 2,27	- 2,24	0,03		3	- 4,52			
28	- 1,56	- 1,23	0,23		5	- 4,45	- 4,46	0,01	
29	- 2,32	- 2,91	0,59		7	.....	- 4,61		
30	- 3,10	- 3,25	0,15		8	.....	- 5,48		
May 1	- 3,44	- 3,43	0,01		9	- 5,59			
2	- 3,34	- 3,28	0,06		12	.....	.....	.....	Regulated the
3	- 3,42	- 3,19	0,23		13	+ 0,60	+ 0,42	0,18	Clock.
4	- 3,00	- 2,76	0,24		15	+ 0,44	+ 0,02	0,42	
5	.....	- 2,70			16				
6	- 2,72	- 2,70	0,02		17	+ 0,10			
7	- 2,83				18	+ 0,09			
8	- 3,32	- 3,38	0,06		19	- 0,10			
9	- 3,76	- 3,63	0,13		20	- 0,26	- 0,24	0,02	
10	- 3,41	- 3,51	0,10		21	- 0,80			
11	- 3,36	- 3,50	0,14		23	.....	- 0,94		
12	- 3,55	- 3,35	0,20		25	- 0,66	- 0,66	0,00	
13	- 3,65	- 4,07			26	.....	- 0,67		
14	- 3,77				27	- 0,80	- 0,85	0,05	
19	- 3,08				28	- 1,06	- 0,76	0,30	
20	- 3,62				29	- 1,10			
22	- 3 52				30	- 1,00			
23	- 5 02	- 4,53	0,49		Aug. 1	- 0,66	- 0,63	0,03	
24	- 4,46	- 4,67	0,21		2	- 0,26	- 0,85	0,59	
25	- 4,95				3	- 0,71			
26	- 5 31				4	- 0,53	- 0,69	0,16	
28	- 4,81				5	- 0,29	- 0,48	0,19	
29	+ 4 07				6	- 1,33	- 1,20	0,13	
30	+ 4,97	+ 5,54			7	- 0,89	- 1,14	0,25	
31	+ 5 90	+ 6,27	0,37		8	- 0,54	- 0,94	0,40	The minute hand
June 1	+ 6,45	.....	.....	Wound up the	10	.....	- 2,51		of the Clock stopt,
2	- 3,55	- 4 75		Clock.	11	- 2,68			in consequence of
3	- 4,41	- 3,40			12	- 2,57	- 2,75	0,18	having become
4	- 3,39				13	- 1,84			loose.
5	- 4,03				14	.....	- 1,68		
6	- 4,16				15	- 2,09	- 1,77	0,32	
7	- 4,50				16	- 1,94			
8	- 4,38	- 4,54	0,16		17	- 0,91	- 0,74	0,17	
9	.....	- 4,66			18	.....	- 1,41		

1833	Clock Rate by		Difference.	REMARKS.	1833	Clock Rate by		Difference.	REMARKS.
	Sun.	Stars.				Sun.	Stars.		
	s.	s.	s.			s.	s.	s.	
Aug. 23	— 1,59	— 1,63	0,04		Oct. 20	.....	+ 1,92		
24	— 2,01				21	.....	+ 0 80		
28	— 1,22				22	+ 1,62	+ 1,41	0,21	
29	.....	— 1,44			23	+ 1,27	+ 1,21	0,06	
30	— 1,19	— 1,05	0,14		24	.....	+ 1,14		
31	— 1,56				31	.....	+ 0,85		
Sept. 2	— 1,41				Nov. 1	+ 0,77			
3	— 0,58				5	.....	+ 2,10		
5	.....	.....	.....	An alteration of	6	.....	+ 0,83		
6	— 0,38			about 30 seconds	7	.....	+ 0,41	....	Forwarded the
7	— 1,17			in the error of the	16	.....	+ 1,06		Clock two mi-
8	— 0,84	— 1,17	0,33	Clock took place	17	.....	+ 1,55		nutes.
9	— 1,37	— 1,00	0,37	between the 3d	18	.....	+ 0,96		
10	— 1,36	— 1,65	0,29	and 5th.	19	— 1,37	— 2,05		
11	— 1,52	— 1,08	0,44		20	.....	— 1,99		
12	— 1,45	— 1,50	0,05		21	.....	— 1,88		
13	.....	— 1,49			22	— 1,46			
14	.....	— 1,27			23	.....	— 1,67		
15	— 1,16	— 1,39	0,23		29	— 1,73			
16	— 1,25				Dec. 1	— 1,27			
17	.....	— 0,75			2	— 1,06	— 1,49	0,43	
18	— 0,96	— 1,46	0,50		3	— 1,08	— 0,83	0,25	
19	— 1,36				4	.....	— 0,34		
21	.....	— 1,64			5	— 0,50	— 0,51	0,01	
26	— 1,53	— 1,26	0,27		6	.....	— 0,88		
27	— 0,36				7	— 0,92	— 0,86	0,06	
28	— 1,78				8	— 0,75			
29	— 1,90				9	— 0,85	— 0,89	0,04	
30	.....	— 1,46			10	— 0,74			
Oct. 2	.....	— 1,62			11	— 1,22	— 1,12	0,10	
4	— 1,47	— 1,46	0,01		12	— 0,93	— 1,10	0,17	
5	.....	— 1,20			13	.....	— 1,16		
6	— 1,38	— 1,50	0,12		14	— 1,19			
7	.....	— 1,68			17	.....	— 2,40		
8	.....	— 1,61			18	— 2,15	— 2,28	0,13	
9	.....	— 0,77			19	— 2,61	— 2,72	0,11	
10	.....	— 0,93			20	— 2,21	— 1,93	0,28	
11	.....	— 1,18			22	— 2,62			
12	.....	— 1,24			23	— 3,02	— 2,77		
13	.....	— 0,94			24	— 2,35	— 2,49	0,14	
14	.....	+ 0,31			25	.....	— 2,13		
15	+ 0 06				26	— 2,42	— 2,46	0,04	
16	+ 0,85	+ 0,78	0,07		27	— 2,33			
17	.....	+ 2,12			29	.....	— 1,64		
18	+ 2,30				30	— 1,99	— 2,13	0,14	
19	+ 2,56	+ 2,65	0,09		31	— 2,96			

OF THE MURAL CIRCLE.

This Instrument having been already sufficiently described in Vol. I, it is only necessary for me here to remark that I have continued to employ the full aperture ($3\frac{3}{4}$ Inches) and the same power (about 140) as heretofore. Towards the end of the year 1832, being desirous of ascertaining the amount of error of some of the divisions, I availed myself of the cloudy evenings which then occurred, to measure the angular distance between two *collimators*, which I had previously adjusted to subtend an angle of 90° ; by this means I was put in possession of the error of the points 90° 180° 270° .

I now placed two collimators so as to subtend an angle of 30° and thus obtained the error of the points 30° , 60° , 120° , &c. and subdividing these, eventually arrived at the errors of every fifth degree; the particulars of these measurements having been transmitted to England for publication, it is only necessary for me to remark, that the largest error which would be committed by the employment of any division together with that situated at 180° distance, did not exceed $2''.5$; and this is probably too large, being subject to the errors of observation. On the occasion of making these observations it was necessary to unclamp the Telescope from the circle, and on again clamping it to readjust the Telescope for Level, &c.; but at no other time during the years 1832 and 1833, has any adjustment been found necessary. On inspecting the rough observations a consistency is found to exist among the microscope readings which speaks in a manner highly creditable for the stability of the axis. With regard to the state of the Instrument I may safely assert, that now, after three and a half years of active employ, it is in no respect injured by wear, and but little deteriorated in appearance.

METEOROLOGICAL INSTRUMENTS EMPLOYED.

The Barometer employed at the beginning of 1832 was made by Cary; this

on being compared (see page 59, Vol. I.) with Standard Barometer No. 3, by Gilbert, shewed that the indications of the former were in defect 0,152 Inches, hence it is necessary to increase the Barometrical indications set down in the Mural Circle Book by this amount from the 1st January up to the 20th February 1832; for the observations after this date the Standard Barometer No. 3, by Gilbert was employed, which consequently only requires the correction for capillary action $+ ,027$. With a view to discover if the Barometer in question has remained undisturbed, I have occasionally compared it with another Standard No. 6, by Gilbert; the result of these comparisons shew that the same difference ($,018$) exists between them as found in Calcutta, when they were compared with the other Standards in the Surveyor General's Office. The Thermometers employed at the commencement of 1832 were A and B by Jones, which from comparisons made with the Standard A belonging to the Surveyor General's Office at Calcutta, appear to be $0^{\circ},54$ and $0^{\circ},47$ respectively *too low*; hence, (Thermometer A having been employed "*in doors*" for 1832 and 1833) it becomes necessary to add $0^{\circ},54$ to the in door Thermometer as set down in the Circle Book; for the Thermometer "*without*", the Thermometer B was employed up to 1st March 1832; for which period the indications must consequently be increased $0^{\circ},47$; after this time and up to the end of 1833, a Standard Thermometer by Troughton was employed, which I selected in Calcutta as agreeing with the Standard A in the Surveyor General's Office; consequently from the 1st March 1832 up to the end of 1833, the *out door* Thermometer as set down in the Mural Circle Book does not require correction.

OBSERVATIONS MADE WITH THE MURAL CIRCLE.

Having found it inconvenient to observe the reflected image of Stars from a basin of quicksilver by reason of the disturbance necessarily produced by the observer at the Transit Instrument, I have during the years 1832 and 1833, given up observing by reflection. In the determination of the Index Error I have continued to employ those Stars of the Greenwich Catalogue which are situated between 25° and 90° of N. P. D. these being the limits between which the uncertainty of refraction is but small.

In the reduction of the Greenwich Catalogue Bradley's table of refraction was employed, whereas in the reduction of the Madras Results I have for reasons explained at Page 61, Vol. I. employed Atkinson's table; I have consequently reduced the Greenwich Catalogue to the tenor of Atkinson's table of refraction before using it in computing the Index Error (see Page 62, Vol. I.)

The table of Index Errors which now follows has been employed in computing the places of the fixed Stars, and the Planets when the centre of the body has been observed; but in the case of the Sun and Moon, and of Planets where the *limb* has been observed, an allowance has been made of 1",2 for the semi-diameter of the wire.

Index Error of the Madras Mural Circle for the years 1832 and 1833.

Date.	No. of Ob- servations.	Index Error.	Mean.	REMARKS.	Date.	No. of Ob- servations.	Index Error.	Mean.	REMARKS.
1832		' "	' "		1832		' "	' "	
Jan. 1	14	— 2 58,41			Feb. 19	8	— 3 3,44		
3	12	2 59,11			21	11	3 4,04		
5	21	2 59,08			23	10	3 4,62		
6	9	3 0,19			24	11	3 2,03		
10	8	2 59,06			26	21	3 18,11	I adjusted the microscopic readings.
12	4	2 59,40			27	7	3 16,09		
13	9	3 1,04			29	15	3 16,47		
14	12	3 4,37			March 1	11	3 16,63	— 3 16,37	
18	9	3 1,20			2	10	3 16,37		
22	17	3 1,40			4	15	3 16,28		
24	9	3 2,00			5	6	3 15,61		
26	20	3 1,66			7	8	3 15,25	— 3 15,47	
27	18	3 2,33			10	13	3 15,55		
28	13	3 2,52			11	8	3 27,81	I took the In- strument down, and applied fresh oil to the axis.
29	12	3 1,95			12	6	3 28,16		
30	14	3 2,45			13	8	3 28,48		
31	9	3 3,93			15	10	3 28,88		
Feb. 1	13	3 3,00			18	12	3 28,80		
2	12	3 2,79			20	13	3 26,85		
3	12	3 3,73			23	9	3 27,03		
4	10	3 3,74			24	10	3 28,05		
5	10	3 3,51			25	8	3 27,30		
6	11	3 3,29			26	8	3 27,41		
7	4	3 3,36			28	9	3 27,59		
8	9	3 2,30			29	9	3 28,55		
10	11	3 2,50			30	6	3 28,36		
11	7	3 2,19			31	10	3 28,57		
13	9	3 2,70			April 1	12	3 28,13		
15	15	3 2,14			3	20	3 27,32	— 3 27,61	

Date.	No. of observations.	Index Error.	Mean.	REMARKS.	Date.	No. of observations.	Index Error.	Mean.	REMARKS.
1832		' "	' "		1832		' "	' "	
April 4	10	— 3 27,21			Sept. 27	11	— 3 25,11		
6	14	3 28,04			30	7	3 25,18		
10	10	3 27,49			Oct. 1	13	3 25,09		
12	9	3 27,39	— 3 27,61		2	10	3 24,65		
13	7	3 27,53			3	15	3 25,88		
14	6	3 28,42			7	11	3 25,28		
16	8	3 27,43			9	10	3 24,22		
20	7	3 26,83			11	9	3 25,12		
22	10	3 25,17			21	15	3 25,15		
24	6	3 25,32			24	10	3 24,00		
26	11	3 24,99			26	10	3 25,00		
28	14	3 24,51	— 3 24,89		27	7	3 24,27		
30	12	3 24,24			29	7	3 26,39		
May 1	4	3 24,64			30	11	3 26,03		
2	6	3 25,37			31	8	3 25,27		
4	10	3 26,42			Nov. 2	9	3 25,65		
9	11	3 27,75			3	9	3 22,42		
11	7	3 26,60	— 3 26,77		4	9	3 23,64		
12	10	3 26,72			8	7	3 24,71		
16	14	3 26,39			10	7	3 23,06		
17	5	3 25,46			12	7	3 24,69	.....	Unclamped the Telescope.
18	8	3 25,25			16	9	1 19,14		
20	10	3 25,51			17	9	1 19,74		
22	10	3 24,86			19	11	1 20,16		
26	9	3 25,46	— 3 25,23		21	6	1 20,10		
28	7	3 24,88			22	8	1 19,84		
31	7	3 25,00			25	12	1 20,17		
June 5	9	3 25,44			29	11	1 18,84		
10	7	3 24,04			30	6	1 17,60		
12	11	3 23,59			Dec. 4	8	4 46,81	.....	Unclamped the Telescope.
17	13	3 25,33			6	8	4 47,47		
22	3	3 25,17			8	13	2 50,41	.....	Do. do.
July 29	11	3 23,25			12	7	3 2,73	.....	Do. do.
Aug. 8	10	3 23,22			13	6	3 0,11		
11	12	3 22,28			16	12	4 24,04	.....	Do. do.
15	7	3 21,74			17	8	4 23,57		
18	12	3 22,85			18	7	4 25,01		
23	13	3 23,88			19	5	4 24,67		
24	11	3 23,70			21	11	7 17,71	.....	Do. do.
26	11	3 25,02			22	9	7 16,53		
27	8	3 24,25			24	10	7 17,48		
28	13	3 24,36			25	9	7 18,36		
31	10	3 25,39			27	5	3 3,13	.....	I took down the Circle and cleaned the axis.
Sept. 7	10	3 24,97							
9	10	3 24,05							
11	10	3 23,95							
19	14	3 23,78							
22	11	3 24,67							
23	9	3 25,63							
24	13	3 24,39							
25	15	3 24,78							
26	12	3 24,44							
					1833				
					Jan. 2	11	3 4,30		
					3	17	3 5,36		
					4	17	3 5,85		
					5	9	3 6,05		

Date.	No. of Ob- servations.	Index Error.	Mean.	REMARKS.	Date.	No. of Ob- servations.	Index Error.	Mean.	REMARKS.
1833		' "	' "		1833		' "	' "	
Jan. 6	11	- 3 4,66	- 3 4,56		March 10	16	- 3 6,27	.....	Unclamped the Telescope.
8	11	3 4,74			12	17	1 34,75		
10	9	3 4,08	- 3 5,12		13	19	1 34,35		
11	8	3 4,74			14	20	1 35,30		
14	12	3 5,12	- 3 5,12		15	19	1 35,11		
15	11	3 5,12			16	17	1 36,48		
16	11	3 5,51			17	18	1 36,45		
17	9	3 6,38			18	19	1 36,26		
18	8	3 5,56			19	16	1 37,09	- 1 36,58	
19	10	3 6,08			20	16	1 36,75		
20	7	3 5,89	- 3 5,83		21	15	1 36,53		
21	9	3 5,53			22	19	1 36,50		
22	8	3 5,63			23	15	1 35,30		
23	11	3 6,45			24	15	1 35,49		
25	17	3 5,90			25	15	1 34,91	- 1 35,36	
26	14	3 5,76			26	10	1 35,23		
27	14	3 5,73			27	11	1 35,72		
28	16	3 5,84			28	12	1 35,47		
29	12	3 5,64			29	14	1 36,22		
31	9	3 6,55			30	7	1 36,39		
Feb. 2	12	3 6,33			31	13	1 35,75	- 1 36,41	
4	11	3 5,89			April 1	10	1 36,60		
5	8	3 6,27			2	13	1 35,93		
6	12	3 4,35			3	17	1 35,40		
8	13	3 4,36			4	14	1 35,52	- 1 35,28	
9	16	3 5,06			5	7	1 35,01		
10	13	3 5,71			6	11	1 35,28		
11	14	3 5,35			7	9	1 35,19		
12	14	3 5,58	- 3 5,57		8	9	1 34,36		
13	13	3 5,67			9	6	1 33,45		
14	13	3 5,53			13	9	1 34,31		
15	14	3 6,25			15	8	1 33,28		
16	11	3 6,33	- 3 6,29		17	9	1 33,26	- 1 33,24	
17	7	3 5,30			19	9	1 33,19		
18	12	3 5,69			20	6	1 33,90	- 1 33,92	
19	12	3 6,32			22	9	1 33,94		
20	11	3 5,21			24	12	1 35,44		
21	10	3 5,58			27	12	1 34,07		
22	14	3 5,38	- 3 5,65		28	8	1 32,80		
23	12	3 5,76			30	8	1 33,80		
24	10	3 5,57			May 3	10	1 32,26	- 1 31,52	
26	16	3 5,81			4, 9	8	1 31,57		
27	12	3 5,98			23	10	1 31,47		
28	12	3 5,77			24, 30	8	1 32,06		
March 1	13	3 5,52			June 2	10	1 30,85		
2	11	3 5,04			7	7	1 30,04		
4	21	3 5,18			8	8	1 28,56		
5	13	3 5,07			9	10	1 27,78		
6	16	3 4,56			11	8	1 28,69		
7	14	3 4,49			12	8	1 28,39		
8	14	3 3,94			20	10	1 26,82		
9	15	3 3,46			28	10	1 26,77		

Date.	No. of observations.	Index Error.	Mean.	REMARKS.	Date.	No. of observations.	Index Error.	Mean.	REMARKS.
1833		" "	" "		1833		" "	" "	
June 30	9	- 1 27.11			Oct. 13	8	- 1 28.15		
July 2	12	1 25.95			15	11	1 28.29		
5	11	1 27.72			16	7	1 28.99		
8	11	1 26.00			20	13	1 28.73	- 1 28.38	
12, 16	11	1 27.53			23	13	1 27.95		
23	10	1 27.18	- 1 27.37		Nov. 1	15	1 28.70		
26	10	1 27.39			9	7	1 25.22	- 1 25.18	Much rain
Aug. 1	12	1 26.83			17	8	1 25.14		which fell between the 1st and 9th, may have occasioned this change.
3	14	1 25.78			19	14	1 24.44		
5	15	1 26.99			21	14	1 23.94		
7	11	1 25.60	- 1 26.38		22	10	1 24.25	- 1 24.30	
10	13	1 27.06			23	11	1 24.56		
14	14	1 26.23			Dec. 2	15	1 24.33		
16	14	1 26.16			3	13	1 24.99		
29	14	1 27.84			4	13	1 24.59	- 1 24.85	
Sept. 5	14	1 26.66			5	12	1 24.96		
9	12	1 27.66			6	10	1 25.56	- 1 25.52	
10	8	1 28.87			7	8	1 25.48		
11	8	1 28.19			8	10	1 26.57		
13	14	1 28.89			9	8	1 26.90		
15	13	1 28.39	- 1 28.55		10	11	1 27.75		
20	11	1 28.61			14	18	1 28.19		
26	14	1 28.33			18	10	1 25.70		
30	7	1 28.55			20	11	1 25.81	- 1 25.86	Much rain.
Oct. 2	9	1 28.47			23	12	1 25.47		
4	7	1 28.34			25	14	1 28.12	- 1 27.98	
7	11	1 28.71			27	15	1 27.84		
11	15	1 27.33	- 1 28.38		29	11	1 26.89	- 1 27.11	
12	9	1 28.10			31	15	1 27.34		

RESULT OF OBSERVATIONS MADE WITH THE TRANSIT INSTRUMENT AND MURAL CIRCLE, IN THE YEARS 1832 AND 1833.

In the first place we will examine the observations of the Sun; the observed transit of the first and second limb over the five wires furnishes us with the means of determining the semi-diameter; for we have \odot mean semi-diameter = $\left(\frac{\odot 2 L - \odot 1 L}{30} \right) \left(1 + \frac{a^1 - a}{48} \right) \sin. \text{N.P.D.} + \text{Log. } \ominus - \odot$. Where a and a^1 represent the Right Ascension of the Sun, at the noon preceding, and at the noon following the day of observation; in the next place, correcting the observed A.R. for the error of the Clock, and the observed N.P.D. for refraction parallax and Semi-diameter, we obtain results which we will now compare with the places interpolated from the Nautical Almanac, as follows.

Comparison of the observed A.R. and N.P.D. of the Sun, with their places interpolated from the Nautical Almanac, &c.

1832	Observed R.A.			A.R. from Nautical Almanac.		Error of Tables.	Observed N.P.D.			N.P.D. from Nautical Almanac.		Error of Tables.	Mean Semi-dia- meter.				
Jan.	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>	<i>°</i>	<i>m.</i>	<i>s.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>	<i>m.</i>	<i>s.</i>			
	1	18	43	11,27	43	11,40	+	0,13	113	5	10 16	5	16,00	+	5,84	15	58,02
	2	.....	.....	.....	.....	.....	.....	.....	113	0	25,66	0	30,00	+	4,34		
	3	18	52	1,81	52	1,50	—	0,31	112	55	9,19	55	14,00	+	4,81	16	1,44
	4	.....	.....	.....	.....	.....	.....	.....	112	49	25,77	49	31,00	+	5,23		
	6	19	5	14,50	5	13,90	—	0,60	112	36	43,55	36	44 00	+	0,45	16	1,64
	7	19	9	38,17	9	37,20	—	0,97	112	29	39,23	29	41,00	+	1,77	15	58,00
	8	19	14	0,85	14	0,00	—	0,85	112	22	4,23	22	12 00	+	7,77		
	9	19	18	22,72	18	22,30	—	0,42	112	14	11,47	14	17,00	+	5,53	16	0,80
	10	19	22	44 67	22	44,10	—	0,57	112	5	46,20	5	54,00	+	7,80	16	0,18
	11	19	27	6,35	27	5 30	—	1,05	111	56	57,08	57	3,00	+	5,92		
	12	19	31	26,78	31	35 80	—	0,98	111	47	47,83	47	46,00	—	1,83	16	2,34
	13	19	35	46 46	35	45,70	—	0,76	111	38	2,25	38	4,00	+	1,75		
	14	19	40	5,78	40	5,10	—	0,68	111	28	0,62	28	0,00	—	0,62	16	3,33
	15	19	44	24,63	44	23,50	—	1,13	111	17	30,45	17	32 00	+	1,55	16	3,18
	18	.....	.....	.....	.....	.....	.....	.....	110	43	35,60	43	38,00	+	2,40		
	19	.....	.....	.....	.....	.....	.....	.....	110	31	28,91	31	32,00	+	3,09	16	3,28
	21	.....	.....	.....	.....	.....	.....	.....	110	6	10,93	6	10,00	—	0,93		
	22	.....	.....	.....	.....	.....	.....	.....	109	52	58,42	52	55,00	—	3,42		
	24	20	22	39,78	22	38,80	—	0,98	109	25	12,68	25	20,00	+	7 39	16	1,10
	25	20	26	50,94	26	50,30	—	0,64	109	11	2,58	11	0,00	—	2,58	16	0,67

1832	Observed A.R.			A.R. from Nautical Almanac.		Error of Tables.	Observed N.P.D.			N.P.D. from Nautical Almanac.		Error of Tables.	Mean Semi-dia- meter.				
	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>+</i>	<i>'</i>	<i>"</i>		
January	26	20	31	1,29	31	0,90	—	0,39	108	56	10,75	56	18,00	+	7,25	16	1,24
	27	20	35	11,14	35	10,60	—	0,54	108	41	16,78	41	16,00	—	0,78	16	0,84
	28	20	39	20,59	39	19,50	—	1,09	108	25	45,34	25	53,00	+	7,66	16	1,66
	29	20	43	28,47	43	27,60	—	0,87	108	10	9,05	10	11,00	+	1,95	15	59,03
	30	20	47	35,45	47	35,20	—	0,25	107	54	0,13	54	7,00	+	6,87	16	4,63
	31	20	51	42,22	51	41,70	—	0,52	107	37	48,67	37	46,00	—	2,67	16	2,74
February	1	20	55	48,07	55	47,40	—	0,67	107	21	3,17	21	7,00	+	3,83	16	3,37
	2	20	59	52,78	59	52,30	—	0,48	107	4	10,97	4	8,00	—	2,97	16	4,05
	3	21	3	56,99	3	56,30	—	0,69	106	46	48,37	46	50,00	+	1,63	16	3,10
	4	21	7	59,76	7	59,60	—	0,16	106	29	22,12	29	17,00	—	5,12	16	4,16
	5	21	12	2,13	12	1,90	—	0,23	106	11	23,28	11	24,00	+	0,72	16	1,55
	6	21	16	3,93	16	3,60	—	0,33	105	53	21,12	53	16,00	—	5,12	16	4,32
	7	21	20	4,60	20	4,30	—	0,30	105	34	58,51	34	52,00	—	6,52	16	2,45
	8	21	24	4,44	24	4,10	—	0,34	105	16	14,32	16	13,00	—	1,32	16	1,80
	9	21	28	3,63	28	3,20	—	0,43	104	57	23,56	57	17,00	—	6,56	16	2,37
	10	21	32	1,90	32	1,60	—	0,30	104	38	3,00	38	6,00	+	3,00	16	1,40
	11	21	35	59,42	35	58,90	—	0,52	104	18	41,46	18	40,00	—	1,46	16	1,57
	12	21	39	56,67	39	55,50	—	0,17	103	58	58,84	59	2,00	+	3,16	16	1,40
	14	21	47	46,51	47	46,50	—	0,01	103	19	0,46	19	4,00	+	3,54	16	0,83
	15	21	51	41,44	51	40,80	—	0,64	102	58	40,60	58	45,00	+	4,40	16	0,48
	17	21	59	27,62	5	27,20	—	0,42	102	17	24,55	17	30,00	+	5,45		
	18	22	3	19,98	3	19,40	—	0,58	101	56	29,40	56	36,00	+	6,60	16	2,02
	19	22	7	11,26	7	10,80	—	0,46	.....	.....	.....	.....	.....	.....	.....	16	2,28
	20	22	11	2,05	11	1,60	—	0,45	101	14	6,88	14	11,00	+	4,12	16	2,30
	21	22	14	52,05	14	51,60	—	0,45	100	52	35,17	52	43,00	+	7,83	16	3,57
	22	22	18	41,41	18	41,10	—	0,31	100	30	59,96	31	5,00	+	5,04	16	3,16
	23	22	22	30,61	22	29,90	—	0,71	100	9	14,08	9	16,00	+	1,92	16	2,48
	24	22	26	18,67	26	18,20	—	0,47	99	47	16,27	47	19,00	+	2,73	16	1,67
25	22	30	6,02	30	5,70	—	0,32	99	25	5,41	25	12,00	+	6,59	16	2,57	
26	22	33	53,64	33	52,70	—	0,94	99	2	47,56	2	57,00	+	9,44	16	2,34	
28	.....	.....	.....	.....	.....	.....	.....	98	17	54,28	18	3,00	+	8,72			
March	1	22	48	55,93	48	55,70	—	0,23	97	32	35,88	32	39,00	+	3,12	16	2,77
	2	22	52	40,20	52	39,90	—	0,30	97	9	40,18	9	47,00	+	6,82	16	2,85
	3	22	56	24,18	56	23,70	—	0,48	96	46	46,24	46	50,00	+	3,76	16	2,25
	4	23	0	7,21	0	7,10	—	0,11	96	23	43,27	23	47,00	+	3,73	16	1,80
	5	23	3	50,45	3	50,10	—	0,35	96	0	38,10	0	38,00	—	0,10	16	3,16
	6	23	7	53,06	7	52,60	—	0,46	95	37	17,60	37	25,00	+	7,40	16	1,80
	7	23	11	15,11	11	14,70	—	0,41	95	14	8,80	14	7,00	—	1,80	16	2,88
	8	23	14	56,67	14	56,30	—	0,37	94	50	45,89	50	45,00	—	0,89	16	1,81
	9	23	18	37,99	18	37,60	—	0,39	94	27	20,70	27	20,00	—	0,70	16	1,10
	10	23	22	18,97	22	18,50	—	0,47	94	3	45,61	3	50,00	+	4,39	16	2,16
	11	23	26	0,07	25	59,10	—	0,97	93	40	16,45	40	19,00	+	2,55	16	6,45
	12	23	29	39,62	29	39,30	—	0,32	93	16	34,74	16	44,00	+	9,26	16	2,34
	13	23	33	19,43	23	9,10	—	0,33	92	53	3,09	53	9,00	+	5,91	16	1,20
	14	23	36	59,13	36	58,70	—	0,43	92	29	24,00	29	31,00	+	7,00	16	1,67
	15	23	40	38,44	40	38,10	—	0,34	92	5	48,99	5	52,00	+	3,07	16	1,82
	16	23	44	17,49	44	17,10	—	0,39	91	42	4,68	42	11,00	+	6,32	16	0,66
	17	23	47	56,47	47	55,90	—	0,57	91	18	26,27	18	31,00	+	4,73	15	56,92
	18	23	51	35,02	51	34,60	—	0,42	90	54	47,50	54	48,00	+	0,50	16	0,60
	19	23	55	13,50	55	13,10	—	0,40	90	31	7,53	31	6,00	—	1,53		
	20	23	58	52,11	58	51,50	—	0,61	90	7	25,25	7	25,00	—	0,25		
	21	0	2	30,28	2	29,80	—	0,48	89	43	42,84	43	45,00	+	2,16	16	1,07
	22	0	6	8,27	6	7,90	—	0,37	89	20	6,12	20	5,00	—	1,12	16	2,16

1832	Observed A.R.			A.R. from Nautical Almanac.		Error of Tables	Observed N.P.D.			N.P.D. from Nautical Almanac.		Error of Tables	Mean Semi-dia- meter.	
	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>"</i>	<i>"</i>
March	23	0	9	46,31	9	45,90	—	0,41	88	56	24,08	56	26,00	+ 1 92 16 2,65
	24	0	13	24,39	13	23,90	—	0,49	88	32	40,98	32	50 00	+ 9,02 16 2,20
	25	0	17	2,32	17	1,90	—	0,42	88	9	11,58	9	16,00	+ 4 42 16 0,64
	26	0	20	40,24	20	39,90	—	0,34	87	45	38,10	45	43,00	+ 4,90 16 2,52
	27	0	24	18,21	24	17,90	—	0,31	87	22	8,80	22	14 00	+ 5,20 16 0,72
	28	0	27	56,14	27	55,90	—	0,24	86	58	50,12	58	47 00	— 3,12 16 3,68
	30	0	35	12,60	35	12,20	—	0,40	86	12	1,12	12	4 00	+ 2 88 16 1,68
April	31	0	38	50,74	38	50,40	—	0,34	85	48	52,19	48	49 00	— 3,19 16 1,72
	1	0	42	29,22	42	28,60	—	0,62	85	25	35,96	25	39 00	+ 3 04 16 0,84
	2	0	46	7,69	46	7,10	—	0,59	85	2	39 39	2	33,00	— 4 02 16 1,32
	3	0	49	46,12	49	45,60	—	0,52	84	39	36 02	39	32,00	+ 2,13 16 2,34
	4	0	53	24,51	53	24,30	—	0,21	84	16	35,87	16	38,00	+ 4 31 15 59 31
	5	0	57	3,39	57	3,10	—	0,29	83	53	45,69	53	50,00	+ 5,51 16 1,60
	6	1	0	42,48	0	42,10	—	0,38	83	31	1,49	31	7,00	+ 8 43 16 1,46
	7	1	4	21,89	4	21,30	—	0,59	83	8	23,57	8	32,00	+ 4,40 16 2,08
	8								82	45	58 60	46	3 00	+ 2,67 15 58,77
	9								82	23	40,33	23	43,00	— 1,69 16 2,52
	10								82	1	32,69	1	31,00	+ 3,05 15 59 72
	11								81	39	17,79	39	26,00	+ 3,42 16 0,28
	12								81	17	24,95	17	28,00	+ 1,15 16 1,02
	13													2,46 15 59,60
	14								80	33	59,58	34	3,00	+ 1,38 16 1,18
	15	1	33	43,40	33	43,30	—	0,10	80	12	31,85	12	33,00	+ 4,69 16 3,60
	16	1	37	25,75	37	24,90	—	0,85	79	51	10,54	51	13,00	+ 1,59 16 2,72
	17								79	30	4,38	30	3,00	— 1,59 16 1,63
	18								79	8	58,31	9	3,00	+ 4,57 16 5,17
	19													1,23 16 4,90
	20								78	27	33,56	27	37,00	+ 3,75 16 4,45
	21								78	7	7,74	7	11,00	+ 4,92 16 3,76
	22								77	46	50,81	46	56 00	+ 8,40 16 3,54
	23								77	26	51,02	26	52,00	+ 6,12 16 1,44
	24								77	6	59,87	7	1,00	+ 5,26 15 58,54
May	25								76	47	21,01	47	24,00	+ 4,94 16 0,04
	26								76	27	57,54	27	58,00	+ 16 2,54
	27								76	8	44,90	8	45 00	+ 3 47 16 1,20
	28								75	49	48,97	49	47 00	— 1,72 16 0,60
	29								75	31	1,44	34	2,00	+ 16 1,26
	30								75	12	32,59	12	31 00	+ 3,00 16 7,02
	1								74	54	20,57	54	16 00	— 1,20 16 3,36
	2								74	36	13,77	36	15 00	+ 2,31 15 57,90
	3								74	18	24,25	18	28 00	+ 16 0,00
	4								74	0	54,08	0	59 00	+ 16 0,00
	5								73	43	37,60	43	46 00	+ 16 0,00
	6								73	26	40,88	26	47 00	+ 16 0,00
	7								73	9	59,74	10	5,00	+ 16 0,00
	8								72	53	34,61	53	40 00	+ 16 0,00
	9								72	37	29,06	37	34 00	+ 16 0,00
	10													
	11													
	12													
	13	3	20	10,46	20	10,20	—	0,26	71	50	52,53	50	56 00	+ 16 0,00
	14								71	35	58,28	36	0,00	+ 16 0,00
	15													
	16								71	7	2,00	7	5 00	+ 16 0,00
	17								70	53	5,20	53	4,00	— 16 0,00
									70	39	21,69	39	24 00	+ 16 0,00

RESULT OF OBSERVATIONS IN 1832 AND 1833.

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1832	Observed A.R.			A.R. from Nautica' Almanac		Error of Tables.	Observed N.P.D.			N.P.D. from Nautical Almanac		Error of Tables.	Mean Semi-dia- meter.		
	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>mi.</i>	<i>s.</i>	<i>s.</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>°</i>	<i>'</i>	<i>"</i>
May	18	.....	.....	.....	.....	.....	70	26	0,85	26	3,00	+	2,15	16	6 48
	19	.....	.....	.....	.....	.....	70	13	4,39	13	2,00	—	2,39	15	57,80
	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16	2,00
	21	3	51	53 69	51	53,10	—	0,59	.....	.....	.....	.....	.....	16	2 45
	22	3	55	54 12	55	53 50	—	0,62	69	36	4,10	36	1,00	—	3,10 16 2 33
	23	3	59	55,17	59	54,50	—	0,67	69	21	24,51	24	23,00	—	1,51 16 1,96
	24	4	3	56,77	3	55,90	—	0,87	69	12	58,73	13	5,00	+	6,27
	25	.....	.....	.....	.....	.....	69	2	7,24	2	8,00	+	0,76	16	1,26
	26	.....	.....	.....	.....	.....	68	51	22,12	51	32,00	+	9,88	16	6,14
	27	4	16	4,58	16	3 70	—	0,88	68	41	19,69	41	19,00	—	0,69 16 0,14
June	29	4	24	11,64	24	11 40	—	0,24	.....	.....	.....	.....	.....	.....	.....
	30	4	28	16,87	28	15,90	—	0,97	68	12	49,40	12	52,00	+	2,60 16 1,72
	31	4	32	21,49	32	20,90	—	0,59	68	4	1,99	4	7,00	+	5 01 16 2,03
	1	4	36	27,01	36	26,20	—	0,81	67	55	44,58	55	47,00	+	2,42 16 1,42
	2	4	40	32,24	40	31,90	—	0,34	67	47	43 95	47	47 00	+	3 05 16 2,96
	3	4	44	38,78	44	38,00	—	0,78	67	40	13,26	40	14 00	+	0,74 16 2,52
	4	4	48	45,34	48	44,50	—	0,84	67	33	0,66	33	5 00	+	4 34 15 59 30
	5	4	52	51,52	42	51,40	—	0,12	67	26	14,34	26	16,00	+	1,66 15 59,04
	6	4	56	58,89	56	58 40	—	0,49	67	19	51,10	19	51,00	—	0,10 16 3,98
	7	5	1	6,37	1	5,80	—	0,57	67	13	48,35	13	51,00	+	2,65
	8	5	5	13,86	5	13,40	—	0,46	67	8	8,77	8	15,00	+	6,23
	9	5	9	21,89	9	21,40	—	0,49	67	3	4,85	3	3 00	—	1,85 16 2,30
	10	5	13	30,16	13	29,60	—	0,56	66	58	8,42	58	15 00	+	6,58 16 1 33
	11	5	17	38,91	17	38,00	—	0,91	66	53	50,47	53	51,00	+	0,53 16 2,05
	12	5	21	47,19	21	46,60	—	0,59	66	49	48,77	49	52,00	+	3,23 16 3,05
	13	5	25	56,03	25	55,20	—	0,83	66	46	15,80	46	18 00	+	2,20 16 2,30
	14	5	30	4,78	30	4,20	—	0,58	66	43	5,01	43	7,00	+	1,99 15 59,60
	15	5	34	14,08	34	13,40	—	0,68	66	40	19,76	40	20,00	+	0,24 16 0,46
	16	5	38	23,34	38	22,50	—	0,84	66	37	56,16	38	1,00	+	4,84 16 1,72
	17	.....	.....	.....	.....	.....	.....	66	36	1,30	36	4,00	+	2 70 15 59,93	
	18	5	46	41,46	46	41,20	—	0,26	66	34	27,43	34	33,00	+	5,57 16 1,61
	22	.....	.....	.....	.....	.....	.....	66	32	29,86	32	32,00	+	2,14 16 2,00	
	23	.....	.....	.....	.....	.....	.....	66	33	2,38	33	4,00	+	1,62	
	24	.....	.....	.....	.....	.....	.....	66	34	6,15	34	2 00	—	4,15 16 1,72	
	26	.....	.....	.....	.....	.....	.....	66	37	12,21	37	10,00	—	2 21 15 58,30	
	27	.....	.....	.....	.....	.....	.....	66	39	18,10	39	23,00	+	4 90 16 1,24	
	28	.....	.....	.....	.....	.....	.....	66	41	57,75	41	57,00	—	0,75	
	30	.....	.....	.....	.....	.....	.....	66	48	19,61	48	23,00	+	3 39 16 2,10	
July	2	.....	.....	.....	.....	.....	66	56	27,42	56	25,00	—	2,42 16 1,68		
	3	.....	.....	.....	.....	.....	67	1	2,13	1	3,00	+	0,87 16 0,10		
	4	.....	.....	.....	.....	.....	67	6	7,63	6	5,00	—	2,63 16 3 56		
	5	.....	.....	.....	.....	.....	67	11	27,68	11	30,00	+	2 32 16 2 11		
	6	.....	.....	.....	.....	.....	67	17	15,99	17	20,00	+	4 01 15 57,86		
	7	.....	.....	.....	.....	.....	67	23	27,86	23	32,00	+	4,14 15 54 90		
	16	.....	.....	.....	.....	.....	67	36	44,73	38	43,00	—	1,73 15 58,07		
	20	.....	.....	.....	.....	.....	69	18	48,33	18	53,00	+	4,67 15 58,04		
	24	8	14	5,86	14	5,10	—	0,76	69	6	39,55	6	35,00	—	4 55
	25	8	18	3,34	18	2,80	—	0,54	70	19	27,21	19	21,00	—	6 21 16 0,60
August	26	8	22	0,19	21	59,80	—	0,39	70	32	35,49	32	28,00	—	7 49 16 1,02
	28	8	29	52,89	29	52 50	—	0,39	70	59	44,48	59	37,00	—	7 48 16 1,86
	30	.....	.....	.....	.....	.....	71	28	3,32	28	3,00	—	0 32 16 3 48		
	31	.....	.....	.....	.....	.....	71	42	44,17	42	42,00	—	2 17 16 0,58		
	1	.....	.....	.....	.....	.....	71	57	43,37	57	42,00	—	1,37 16 2,13		

1832	Observed R.A.			A.R. from Nautical Almanac.		Error of Tables.	Observed N.P.D.			N.P.D. from Nautical Almanac.		Error of Tables.	Mean Semi-dia- meter.		
	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>'</i>	<i>"</i>	
August	2						72	12	59,72	12	57,00	—	2,72		
	3						72	28	35,78	28	29,00	—	6,78	16 2,34	
	5						73	0	30,57	0	28,00	—	2,57	16 0,18	
	6						73	16	49,42	16	51,00	+	1,58	16 3,90	
	7						73	33	29,44	33	29,00	—	0,44	16 2,42	
	8						73	50	25,78	50	24,00	—	1,78	16 2,65	
	11						74	42	48,86	42	42,00	—	6,86	15 58,94	
	12						75	0	47,12	0	38,00	—	9,12	16 0,58	
	13	9	31	23,86	31	23,50	— 0,36	75	18	57,04	18	48,00	—	9,04	16 2,92
	14	9	35	9,95	35	9,10	— 0,85	75	37	16,45	37	13,00	—	3,45	15 58,14
	17	9	46	24,37	46	23,40	— 0,97	76	33	50,58	33	47,00	—	3,58	16 0,48
	18	9	50	7,78	50	7,00	— 0,78	76	53	7,52	53	4,00	—	3,52	16 0,20
	19	9	53	50,86	53	50,20	— 0,66	77	12	34,40	12	34,00	—	0,40	
	20	9	57	33,69	57	32,90	— 0,79	77	32	15,95	32	17,00	+	1,05	16 1,50
	21	10	1	15,59	1	15,30	— 0,29	77	52	9,12	52	11,00	+	1,88	16 2,80
	22	10	4	57,57	4	57,10	— 0,47	78	12	17,81	12	18,00	+	0,19	16 2,01
	23	10	8	38,75	8	38,50	— 0,25	78	32	34,72	32	35,00	+	0,28	15 59,88
	25	10	16	0,87	16	0,20	— 0,67	79	13	50,09	13	43,00	—	7,09	
	27	10	23	20,62	23	20,00	— 0,62	79	55	35,70	55	31,00	—	4,70	16 3,90
	28	10	27	0,20	26	59,30	— 0,90	80	16	40,24	16	40,00	—	0,24	16 0,60
	29	10	30	39,24	30	38,40	— 0,84	80	38	4,17	37	59,00	—	5,17	
	30	10	34	17,75	34	17,00	— 0,75	80	59	26,61	59	26,00	—	0,61	
	31	10	37	56,23	37	55,30	— 0,93	81	21	0,28	21	1,00	+	0,72	16 1,68
Sept.	2						82	4	34,16	4	38,00	+	3,84	15 59,20	
	4	10	52	25,74	52	25,30	— 0,44	82	48	42,95	48	43,00	+	0,05	16 0,82
	6	10	59	39,23	59	38,80	— 0,43	83	33	16,04	33	17,00	+	0,96	15 59,30
	7	11	3	15,93	3	15,20	— 0,73	83	55	43,26	55	44,00	+	0,74	16 2,54
	9	11	10	27,91	10	27,30	— 0,61	84	41	2,89	40	54,00	—	8,89	16 0,12
	10	11	14	4,16	14	3,10	— 1,06	85	3	47,45	3	38,00	—	9,45	16 3,85
	14						86	35	24,45	35	20,00	—	4,45		
	15	11	32	1,05	32	0,70	— 0,35	86	58	30,78	58	26,00	—	4,78	16 4,16
	16	11	35	36,33	35	36,10	— 0,23	87	21	38,43	21	35,00	—	3,43	16 0,18
	20	11	49	58,33	49	57,90	— 0,43	88	54	42,27	54	42,00	—	0,27	16 0,22
	21	11	53	34,02	53	33,50	— 0,52	89	18	7,92	18	5,00	—	2,92	16 0,95
	22	11	57	12,62	57	9,10									
	23	12	0	45,77	0	45,00	— 0,77	90	5	1,09	4	53,00	—	8,09	15 59,74
	24	12	4	21,46	4	21,00	— 0,46	90	28	22,24	28	19,00	—	3,24	16 1,70
	25	12	7	57,55	7	57,20	— 0,35	90	51	48,97	51	45,00	—	3,97	16 2,28
	26	12	11	33,26	11	33,30	+ 0,04	91	15	13,55	15	11,00	—	2,55	16 3,98
	27	12	15	10,66	15	9,80	— 0,86	91	38	35,55	38	36,00	+	0,45	16 1,61
	28	12	18	46,92	18	46,40	— 0,52	92	2	2,24	2	1,00	—	1,24	
	30	12	26	0,94	26	0,20	— 0,74	92	48	47,45	48	48,00	+	0,55	16 2,07
October	1	12	29	37,70	29	37,60	— 0,10	93	12	2,44	12	8,00	+	5,56	15 59,43
	2	12	33	16,41	33	15,20	— 1,21	93	35	28,25	35	27,00	—	1,25	16 4,17
	4	12	40	32,07	40	31,50	— 0,57	94	21	58,44	21	55,00	—	3,44	
	5						94	45	10,97	45	5,00	—	5,97	16 1,35	
	6						95	8	13,54	8	10,00	—	3,54	16 1,72	
	7	12	51	28,31	51	28,10	— 0,21	95	31	16,87	31	12,00	—	4,87	16 0,84
	8	12	55	9,28	55	7,90	— 1,38	95	54	12,56	54	10,00	—	2,56	16 1,55
	9	12	58	48,97	58	48,00	— 0,97	96	17	8,14	17	3,00	—	5,14	16 3,85
	11	13	6	10,42	6	9,50	— 0,92	97	2	36,15	2	35,00	—	1,15	16 3,10
	12	13	9	52,25	9	51,30	— 0,95	97	25	17,91	25	12,00	—	5,91	16 4,56
	13	13	13	34,20	13	33,20	— 1,00	97	47	42,99	47	43,00	+	0,01	16 1,51

RESULT OF OBSERVATIONS IN 1832 AND 1833.

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1832	Observed A.R.			A.R. from Nautical Almanac.		Error of Tables.		Observed N.P.D.			N.P.D. from Nautical Almanac.		Error of Tables.		Mean Semi-dia- meter.		
	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>m.</i>	<i>s.</i>		<i>s.</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>°</i>	<i>'</i>	<i>"</i>		<i>°</i>	<i>'</i>	<i>"</i>
October	14	13	17	16,69	17	15,80	—	0,89	98	10	10,93	10	8,00	—	2,93		
	15	13	20	59,66	20	59,00	—	0,66	98	32	28,43	32	26,00	—	2,43	16	0,72
	19	.....	.....	.....	.....	.....	.....	.....	100	0	27,11	0	23,00	—	4,11	16	3,72
	20	13	39	44,51	39	43,70	—	0,81									
	21	13	43	31,90	43	30,60	—	1,30	100	43	39,23	43	32,00	—	7,23	15	59,82
	22	13	47	19,30	47	18,20	—	1,10	101	4	51,71	4	52,00	+	0,29	16	1,20
	23	13	51	7,33	51	6,40	—	0,93	101	25	59,41	26	2,00	+	2,59	16	2,96
	24	13	54	56,51	54	55,60	—	0,91	101	47	2,79	47	2,00	—	0,79	16	1,90
	25	13	58	45,82	58	45,20	—	0,62	102	7	52,25	7	51,00	—	1,25	16	2,83
	26	14	2	36,37	2	35,50	—	0,87	102	28	29,93	28	28,00	—	1,93	16	3,22
	27	14	6	27,71	6	26,70	—	1,01	102	48	55,17	48	54,00	—	1,17	16	2,58
	28	14	10	19,51	10	18,60	—	0,91	103	9	6,56	9	8,00	+	1,44	16	1,10
	29	14	14	12,06	14	11,40	—	0,66	103	29	9,27	29	10,00	+	0,73	16	2,36
	30	14	18	5,38	18	4,50	—	0,88	103	49	0,54	48	59,00	—	1,54	16	1,04
	31	14	21	59,27	21	58,70	—	0,57	104	8	30,38	8	34,00	+	3,62	16	2,56
	Nov.	1	14	25	54,19	25	53,50	—	0,69	104	28	1,57	27	56,00	—	5,57	16	0,35
2		14	29	50,66	29	49,20	—	1,46	104	47	5,63	47	3,00	—	2,63	16	1,42
3		14	33	46,46	33	45,79	—	0,76	105	6	1,34	5	56,00	—	5,34	16	1,44
4		.....	.....	.....	.....	.....	.....	.....	105	24	40,10	24	35,00	—	5,10	16	2,50
5		14	41	42,04	41	40,90	—	1,14	105	42	59,08	42	58,00	—	1,08	16	1,52
6		.....	.....	.....	.....	.....	.....	.....	106	1	8,14	1	3,00	—	5,14	15	57,63
9		.....	.....	.....	.....	.....	.....	.....	107	53	51,24	53	49,00	—	2,24	16	0,54
10		15	1	44,68	1	43,70	—	0,98	107	10	51,75	10	50,00	—	1,75		
12		15	9	51,60	9	50,70	—	0,90	107	43	58,85	43	58,00	—	0,85	16	1,96
14		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16	3,82
15		15	22	8,81	22	8,00	—	0,81	.....	.....	.....	.....	.....	.....	.....	16	0,70
16		15	26	16,15	26	15,40	—	0,75	108	46	31,32	46	29,00	—	2,32		
17		15	30	24,83	30	23,70	—	1,13	109	1	21,52	1	19,00	—	2,52	15	59,30
18		15	34	34,01	34	33,00	—	1,01	109	15	49,94	15	47,00	—	2,94	15	59,00
19		15	38	43,98	38	43,10	—	0,88	109	29	56,79	29	55,00	—	1,79	16	1,34
21		15	47	6,94	47	5,40	—	1,54	109	57	12,86	57	8,00	—	4,86	16	1,77
22		15	51	19,09	51	18,10	—	0,99	110	10	16,30	10	12,00	—	4,30	15	59,66
23		15	55	32,45	55	31,40	—	1,05	110	22	53,92	22	53,00	—	0,92	15	59,30
24		.....	.....	.....	.....	.....	.....	.....	110	35	16,84	35	11,00	—	5,84	16	0,57
25		16	4	1,14	4	0,40	—	0,74	110	47	4,37	47	7,00	+	2,63	16	0,40
26	16	8	16,62	8	15,80	—	0,82	110	58	39,92	58	39,00	—	0,92	16	0,92	
27	16	12	33,13	12	32,20	—	0,93	111	9	50,58	9	48,00	—	2,58	16	1,50	
30	16	25	26,01	25	25,20	—	0,81	111	40	51,80	40	48,00	—	3,80	16	1,47	
Dec.	1	16	29	44,55	29	44,40	—	0,15	111	50	21,68	50	20,00	—	1,68	15	59,62
	4	16	42	45,73	42	44,80	—	0,93	.....	.....	.....	.....	.....	.....	.....	16	3,16
	5	16	47	7,07	47	6,10	—	0,97									
	6	.....	.....	.....	.....	.....	.....	.....	112	31	23,66	31	28,00	+	4,34		
	7	16	55	51,35	55	50,40	—	0,95	112	38	26,97	38	24,00	—	2,97	16	0,87
	8	17	0	14,32	0	13,00	—	1,32	112	44	48,70	44	53,00	+	4,30	15	59,22
	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16	1,60
	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16	1,04
	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16	0,90
	12	17	17	50,02	17	49,20	—	0,82									
	13	.....	.....	.....	.....	.....	.....	.....	113	10	29,95	10	32,00	+	2,05	16	1,10
	14	17	26	40,45	26	39,40	—	1,05	.....	.....	.....	.....	.....	.....	.....	15	59,25
	15	17	31	6,17	31	5,00	—	1,17	.....	.....	.....	.....	.....	.....	.....	16	1,98
	16	17	35	32,15	35	31,00	—	1,15	113	20	18,29	20	25,00	+	6,71	16	1,23
	17	17	39	57,95	39	57,10	—	0,85	113	22	43,35	22	46,00	+	2,65	16	5,34
	18	17	44	24,04	44	23,50	—	0,54	113	24	34,88	24	39,00	+	4,12	16	0,87

1832	Observed R.A.			A.R. from Nautical Almanac.		Error of Tables.	Observed N.P.D.			N.P.D. from Nautical Almanac.		Error of Tables.	Mean Semi-dia- meter.				
	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>'</i>	<i>"</i>			
Dec.	19	17	48	51,02	48	50,00	—	1,02	113	26	5,56	26	4,00	—	1,56	15	59,12
	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16	1,37
	21	17	57	44,54	57	43,40	—	1,14	113	27	28,31	27	31,00	+	2,69	16	1,40
	22	.....	.....	.....	.....	.....	.....	.....	113	27	30,39	27	31,00	+	0,61	15	59,72
	23	.....	.....	.....	.....	.....	.....	.....	113	26	59,08	27	3,00	+	3,92	15	59,62
	24	.....	.....	.....	.....	.....	.....	.....	113	26	8,63	26	6,00	+	2,63	15	59,94
	25	.....	.....	.....	.....	.....	.....	.....	113	24	46,15	24	42,00	+	4,15	16	0,72
	26	18	19	57,80	19	57,00	—	0,80	.....	.....	.....	.....	.....	.....	.....	16	0,23
	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16	0,72
	28	18	28	50,51	28	49,60	—	0,91	.....	.....	.....	.....	.....	.....	.....	15	59,95
	29	.....	.....	.....	.....	.....	.....	.....	113	14	18,81	14	21,00	+	2,19	15	59,46
1833																	
January	2	18	50	58,28	50	57,50	—	0,78	112	56	27,69	56	36,00	+	8,31	16	2,60
	3	18	55	22,41	55	21,90	—	0,51	112	50	57,16	51	0,00	+	2,84	16	0,28
	4	18	59	46,38	59	45,90	—	0,48	112	44	47,52	44	57,00	+	9,48	16	0,20
	5	19	4	9,89	4	9,70	—	0,19	112	38	29,28	38	27,00	—	2,28	16	1,88
	6	19	8	33,05	8	32,90	—	0,15	112	31	24,20	31	30,00	+	5,80	16	4,65
	7	19	12	55,94	12	55,70	—	0,24	112	24	7,26	24	7,00	—	0,26	16	2,72
	8	19	17	18,38	17	17,90	—	0,48	112	16	9,68	16	16,00	+	6,32	15	59,34
	9	19	18	39,77	21	39,60	—	0,17	112	7	54,75	8	0,00	+	5,25	16	1,24
	10	19	26	1,17	26	0,70	—	0,47	111	59	14,10	59	17,00	+	2,90	16	0,44
	11	.....	.....	.....	.....	.....	.....	.....	111	50	5,69	50	9,00	+	3,31	16	1,73
	12	19	34	41,72	34	41,40	—	0,32	111	40	32,15	40	36,00	+	3,85	16	2,70
	14	19	43	20,34	43	19,70	—	0,64	111	20	11,59	20	13,00	+	1,41	16	2,13
	15	.....	.....	.....	.....	.....	.....	.....	111	9	23,54	9	24,00	+	0,46	16	0,50
	16	19	51	55,79	51	55,50	—	0,29	110	58	7,80	58	11,00	+	3,20	16	2,80
	17	.....	.....	.....	.....	.....	.....	.....	110	46	34,06	46	34,00	—	0,06	16	2,40
	18	.....	.....	.....	.....	.....	.....	.....	110	34	31,29	34	33,00	+	1,71	16	1,85
	19	.....	.....	.....	.....	.....	.....	.....	110	22	8,15	22	9,00	+	0,85	16	2,40
	20	20	8	59,05	8	58,60	—	0,45	110	9	28,74	9	22,00	—	6,74	15	59,73
	21	20	13	1,76	13	12,50	—	0,26	109	56	14,36	56	13,00	—	1,36	15	59,76
	22	20	17	26,00	17	25,70	—	0,30	109	42	43,05	42	41,00	—	2,05	16	1,20
	23	20	21	38,37	21	38,20	—	0,17	109	28	44,34	28	47,00	+	2,66	16	0,58
	24	20	25	49,63	25	49,80	+	0,17	109	14	32,30	14	32,00	—	0,30	.....	.....
	25	20	30	0,85	30	0,50	—	0,35	108	59	52,56	59	54,00	+	1,44	.....	.....
	26	20	34	10,76	34	10,50	—	0,26	108	44	59,02	44	58,00	—	1,02	16	2,42
	27	.....	.....	.....	.....	.....	.....	.....	108	29	35,72	29	39,00	+	3,28	16	3,10
	28	20	42	28,16	42	27,70	—	0,46	.....	.....	.....	.....	.....	.....	.....	16	1,75
	29	20	46	35,63	46	35,30	—	0,33	107	57	59,31	58	4,00	+	4,69	16	3,48
	30	20	50	42,06	50	41,90	—	0,16	107	41	45,17	41	49,00	+	3,83	15	59,90
	31	.....	.....	.....	.....	.....	.....	.....	107	25	7,39	25	13,00	+	5,61	16	0,10
February	1	20	58	52,88	58	52,60	—	0,28	107	8	21,25	8	20,00	—	1,25	16	3,13
	2	21	2	56,99	2	56,60	—	0,39	106	51	5,07	51	8,00	+	2,93	16	3,47
	3	.....	.....	.....	.....	.....	.....	.....	106	33	37,99	33	38,00	+	0,01	15	59,25
	4	21	11	2,83	11	2,20	—	0,63	.....	.....	.....	.....	.....	.....	.....	16	0,58
	5	21	15	4,13	15	3,80	—	0,33	105	57	46,22	57	49,00	+	2,78	16	2,36
	6	21	19	4,94	19	4,70	—	0,24	105	39	28,77	39	29,00	+	0,23	16	2,07
	7	21	23	4,89	23	4,70	—	0,19	105	21	0,81	20	52,00	—	8,81	16	2,23
	8	21	27	4,06	27	3,80	—	0,26	105	2	4,29	2	2,00	—	2,29	16	1,72
	9	21	31	2,59	31	2,20	—	0,39	104	42	56,26	42	54,00	—	2,26	15	57,88
	10	21	34	59,51	34	59,80	+	0,29	104	23	34,23	23	35,00	+	0,77	15	58,49
	11	.....	.....	.....	.....	.....	.....	.....	104	3	57,45	3	58,00	+	0,55	16	0,83

1833	Observed A.R.			A.R. from Nautical Almanac.		Error of Tables.	Observed N.P.D.			N.P.D. from Nautical Almanac.		Error of Tables.	Mean Semi-dia- meter.					
	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>'</i>	<i>"</i>				
February	12	21	42	53,15	42	52,70	—	0,45	103	44	4,78	44	10 00	+	5,22	16	0,60	
	13	21	46	48 61	46	48 10	—	0,51	103	24	1,74	24	6,00	+	4,26			
	14	21	50	43,04	50	42,90	—	0,14	.....	.....	.....	.....	.....	.....	16	1,65	
	15	21	54	36 82	54	36,80	—	0,02	102	43	13,18	43	20,00	+	6,82	15	58,72	
	16	21	58	30,01	58	29,90	—	0,11	102	22	39,38	22	39,00	—	0,38	16	0,64	
	17	22	2	22,58	2	22,30	—	0 28	102	1	44,63	1	46,00	+	1,37	16	0,52	
	18	22	6	14,37	6	14,00	—	0,37	101	40	38,74	40	41,00	+	2 26	16	2 54	
	19	22	10	5,21	10	5,00	—	0,21	101	19	23,09	19	26,00	+	2 91	15	59,37	
	20	.....	.....	.....	.....	.....	.....	.....	100	57	55,44	57	59,00	+	3,56	16	1,62
	21	22	17	45,75	17	45,20	—	0,55	100	36	23,80	36	22,00	—	1,80	16	1,84	
	22	.....	.....	.....	.....	.....	.....	.....	100	14	36,41	14	37,00	+	0,59	16	0,43
	23	.....	.....	.....	.....	.....	.....	.....	99	52	42 90	52	40,00	—	2,90	16	1,28
	24	.....	.....	.....	.....	.....	.....	.....	99	30	37,73	30	36,00	—	1,73	16	2,80
	25	22	32	58,11	32	57,70	—	0,41	99	8	20,59	8	24,00	+	3,41	15	58,95	
	26	22	36	44,77	36	44,40	—	0,37	98	45	58,69	46	2,00	+	3,31	16	2,16	
	27	22	40	30,64	40	30,30	—	0,34	98	23	31,78	23	33,00	+	1,22	16	0,20	
	28	22	44	16,18	44	15,70	—	0,48	98	0	52 63	0	57,00	+	4,37	16	0,82	
	March	1	22	48	1,02	48	0,70	—	0,32	97	38	12,79	38	14,00	+	1,21	16	0,98
		2	22	51	45,46	51	45 00	—	0,46	97	15	21,56	15	26,00	+	4,44	15	59,90
		3	22	55	29,32	55	28,80	—	0,52	96	52	30,74	52	30,00	—	0,74	16	1,06
		4	22	59	12,55	59	12,20	—	0,35	96	29	27,33	29	30,00	+	2,67	16	2,24
		5	23	2	55,14	2	55,10	—	0,04	96	6	22,57	6	23,00	+	0,43	16	0,84
		6	23	6	37,87	6	37,50	—	0,37	95	43	9,59	43	12,00	+	2,41	16	1,18
		7	23	10	19,71	10	19,40	—	0,31	95	19	58 31	19	56,00	—	2,31	16	0,90
8		.....	.....	.....	.....	.....	.....	.....	94	56	37,25	56	35,00	—	2,25	15	59,96
9		23	17	42,63	17	42,20	—	0,43	94	33	12,83	33	11,00	—	1,83	16	1,02	
10		23	21	23 59	21	23,10	—	0,49	94	9	44,96	9	44,00	—	0,96	16	0,70	
11		23	25	4,17	25	3,70	—	0,47	93	46	6,52	46	13,00	+	6,48	16	1,94	
12		23	28	44,54	28	44,10	—	0,44	.....	.....	.....	.....	.....	.....	16	0,06	
13		23	33	24,34	32	24,10	—	0,24	92	58	59,66	59	4,00	+	4,34	15	59 82	
14		.....	.....	.....	.....	.....	.....	.....	92	35	24,61	35	26,00	+	1,39	16	0,95
15		23	39	43,47	39	43,30	—	0,17	92	11	45,46	11	47,00	+	1,54	16	1,30	
16		.....	.....	.....	.....	.....	.....	.....	91	48	2,99	48	6,00	+	3,01		
18		.....	.....	.....	.....	.....	.....	.....	91	0	38,80	0	41,00	+	2,20	16	2,05
19		23	54	19,30	54	19,20	—	0,10	90	36	56,16	36	58,00	+	1,84	16	0,15	
20		.....	.....	.....	.....	.....	.....	.....	90	13	17,73	13	16,00	—	1,73	16	0,90
21		0	1	36 46	1	36,10	—	0,36	89	49	34,57	49	34 00	—	0,57	16	1,62	
22		0	5	14,68	5	14,40	—	0,28	89	25	54,83	25	53,00	—	1,83	16	0,23	
23		0	8	52,94	8	52,60	—	0,34	89	2	12,24	2	13,00	+	0,76	15	59,08	
24		.....	.....	.....	.....	.....	.....	.....	88	38	33,67	38	35,00	+	1,33	16	2,40
25		0	16	9,05	16	8,80	—	0 25	88	14	57,74	15	0,00	+	2,26	15	59,95	
26	0	19	46,96	19	46,90	—	0,06	87	51	22,43	51	27,00	+	4 57	16	2,25		
27	0	23	25,21	23	24,90	—	0,31	87	27	56,06	27	56,00	—	0,06	16	0,04		
28	.....	.....	.....	.....	.....	.....	.....	87	4	29 06	4	29 00	—	0 06	16	0,10	
29	0	30	41,03	30	40,80	—	0,23	86	41	6,18	41	5,00	—	1,18	16	0,00		
30	0	34	18,96	34	18,80	—	0,16	86	17	41,50	17	47,00	+	5,50	15	59,83		
April	31	.....	.....	.....	.....	.....	.....	85	54	34,57	54	30,00	—	4,57	15	59,95	
	1	0	41	34,99	41	35,00	+	0,01	85	31	19,65	31	19 00	—	0,65	16	0 64	
	2	0	45	13,33	45	13,20	—	0,13	85	8	19 02	8	14,00	—	5 02	16	0,50	
	3	0	48	51,63	48	51,50	—	0,13	84	45	17,78	45	13,00	—	4,78	16	1,10	
	4	0	52	30,08	52	30,00	—	0,08	84	22	15,83	22	17,00	+	1,17	16	2,10	
	5	0	56	8,63	56	8,60	—	0,03	83	59	24 94	59	29,00	+	4 06	15	59,62	
	6	0	59	47,96	59	47,40	—	0,56	83	36	42 09	36	46 00	+	3 91	16	1,26	
	7	1	3	26,81	3	26,50	—	0,31	83	14	5,33	14	9,00	+	3,67	16	2,22	

1833	Observed A.R.			A.R. from Nautical Almanac.		Error of Tables.	Observed N.P.D.			N.P.D. from Nautical Almanac.		Error of Tables	Mean Semi-dia- meter.				
	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>'</i>	<i>"</i>	<i>"</i>	<i>'</i>	<i>"</i>			
April	8	1	7	6,06	7	5,70	—	0,36	82	51	36,47	51	40,00	+	3,53	15	59,86
	9	1	10	45,34	10	45,10	—	0,24	82	29	14,25	29	18,00	+	3,75	16	2,18
	10	.....	.....	.....	.....	.....	.....	.....	82	7	3,69	7	2,00	—	1,69	16	0,08
	11	.....	.....	.....	.....	.....	.....	.....	81	44	52,48	44	55,00	+	2,52		
	14	1	29	7,01	29	6,90	—	0,11	80	39	28,60	39	24,00	—	4,60	16	1,77
	15	.....	.....	.....	.....	.....	.....	.....	80	17	54,96	17	51,00	—	3,96	16	0,26
	16	.....	.....	.....	.....	.....	.....	.....	79	56	34,00	56	28,00	—	6,00	15	59,64
	17	1	40	12,38	40	12,00	—	0,38	79	35	18,23	35	15,00	—	3,23	16	0,50
	18	.....	.....	.....	.....	.....	.....	.....	79	14	16,53	14	12,00	—	4,53	16	1,00
	19	1	47	37,39	47	37,40	+	0,01	78	53	18,19	53	19,00	+	0,81	16	1,84
	20	1	51	20,78	51	20,60	—	0,18	78	32	37,70	32	39,00	+	1,30	15	59,64
	21	.....	.....	.....	.....	.....	.....	.....	78	12	4,04	12	8,00	+	3,96	16	0,64
	22	1	58	48,71	58	48,50	—	0,21	77	51	45,72	51	50,00	+	4,28	16	0,10
	23	2	2	33,45	2	33,10	—	0,35	77	31	36,53	31	43,00	+	6,47	16	0,73
	24	.....	.....	.....	.....	.....	.....	.....	77	11	45,92	11	49,00	+	3,08	16	4,57
	25	2	10	3,98	10	3,60	—	0,38	76	52	6,16	52	8,00	+	1,84	16	0,00
	27	2	17	36,10	17	36,00	—	0,10	76	13	24,02	13	23,00	—	1,02	16	1,26
	28	2	21	22,97	21	22,90	—	0,07	75	54	19,38	54	22,00	+	2,62	16	0,68
	29	.....	.....	.....	.....	.....	.....	.....	75	35	38,18	35	34,00	—	4,18	16	0,90
	May	30	2	28	57,94	28	58,10	+	0,16	75	16	59,46	17	0,00	+	0,54	16	0,84
1		2	32	46,59	32	46,40	—	0,19	74	58	44,76	58	43,00	—	1,76	15	57,78
2		2	36	35,61	36	35,50	—	0,11	74	40	41,73	40	39,00	—	2,73	16	4,40
3		.....	.....	.....	.....	.....	.....	.....	74	22	54,32	22	50,00	—	4,32	15	58,97
4		2	44	15,21	44	15,10	—	0,11	.....	.....	.....	.....	.....	.....	.....	16	0,04
5		2	48	5,83	48	5,70	—	0,13	.....	.....	.....	.....	.....	.....	.....	16	0,75
6		.....	.....	.....	.....	.....	.....	.....	73	30	56,88	30	57,00	+	0,12	15	59,73
7		.....	.....	.....	.....	.....	.....	.....	73	14	7,76	14	13,00	+	5,24	15	59,70
8		.....	.....	.....	.....	.....	.....	.....	72	57	45,12	57	43,00	—	2,12	16	0,28
9		3	3	33,74	3	33,90	+	0,16	72	41	30,91	41	32,00	+	1,09	15	59,83
10		3	7	27,45	7	27,50	+	0,05	72	25	35,39	25	38,00	+	2,61	16	1,43
11		3	11	21,58	11	21,50	—	0,08	72	10	5,59	9	59,00	—	6,59	16	4,13
12		3	16	16,76	15	16,20	—	0,56	.....	.....	.....	.....	.....	.....	.....	16	0,55
13		3	19	11,48	19	11,30	—	0,18	71	39	36,47	39	39,00	+	2,53	15	59,53
14		.....	.....	.....	.....	.....	.....	.....	71	24	54,86	24	58,00	+	3,14	16	0,67
16		.....	.....	.....	.....	.....	.....	.....	70	56	27,10	56	28,00	+	0,90	16	1,17
17		.....	.....	.....	.....	.....	.....	.....	70	42	46,88	42	43,00	—	3,88	16	3,80
18		.....	.....	.....	.....	.....	.....	.....	70	29	14,58	29	16,00	+	1,42	16	2,94
19		.....	.....	.....	.....	.....	.....	.....	70	16	13,80	16	10,00	—	3,80	16	0,40
22		.....	.....	.....	.....	.....	.....	.....	69	38	51,66	38	52,00	+	0,34	16	0,86
23		3	58	56,24	58	55,90	—	0,34	69	27	9,71	27	6,00	—	3,71	16	1,48
24		.....	.....	.....	.....	.....	.....	.....	69	15	43,96	15	45,00	+	1,04	16	0,84
25		.....	.....	.....	.....	.....	.....	.....	69	4	38,37	4	42,00	+	3,63		
26		.....	.....	.....	.....	.....	.....	.....	68	53	57,33	54	2,00	+	4,67	16	1,22
28		.....	.....	.....	.....	.....	.....	.....	68	33	45,08	33	47,00	+	1,92	16	1,08
29		.....	.....	.....	.....	.....	.....	.....	68	24	4,00	24	13,00	+	9,00		
30	4	27	15,94	27	15,90	—	0,04	68	14	56,42	15	1,00	+	4,58	16	2,23	
June	31	4	31	21,02	31	20,60	—	0,42	68	6	9,50	6	12,00	+	2,50	16	3,11
	1	4	35	26,35	35	25,80	—	0,55	67	57	43,95	57	46,00	+	2,05	16	1,24
	2	4	39	31,27	39	31,20	—	0,07	67	49	39,37	49	43,00	+	3,63	16	4,14
	3	4	43	37,14	43	37,10	—	0,04	67	41	58,90	42	3,00	+	4,10	16	2,53
	4	.....	.....	.....	.....	.....	.....	.....	67	34	46,36	34	46,00	—	0,36	16	2,52
	5	.....	.....	.....	.....	.....	.....	.....	67	27	49,58	27	52,00	+	2,42	16	2,58
	6	.....	.....	.....	.....	.....	.....	.....	67	21	22,53	21	23,00	+	0,47	16	1,64
	7	.....	.....	.....	.....	.....	.....	.....	67	15	12,89	15	16,00	+	3,11	16	2,40

1833	Observed A.R.			A.R. from Nautical Almanac.		Error of Tables.	Observed N.P.D.			N.P.D. from Nautical Almanac.		Error of Tables.	Mean Semi-dia- meter.		
	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>'</i>	<i>"</i>	<i>"</i>	<i>'</i>	<i>"</i>	
June	8						67	9	35,10	9	33,00	—	2,10	16 1,92	
	9	5	8	19,65	8	19,60	—	0,05	67	4	14,97	4	16,00	+	1,03 16 2,90
	11	5	16	36,61	16	36,30	—	0,31	66	54	51,15	54	52,00	+	0,85
	12	5	20	45,15	20	44,90	—	0,25	66	50	48,41	50	45,00	—	3,41 16 3,18
	13	5	24	54,22	24	53,80	—	0,42	66	47	6,46	47	6,00	—	0,64 16 1,94
	14	5	29	3,14	29	2,90	—	0,24	66	43	49,60	43	49,00	—	0,60 16 3,16
	19						66	33	37,07	33	35,00	—	2,07	16 0,72	
	20						66	32	45,59	32	47,00	+	1,41	16 3,48	
	21						66	32	23,63	32	24,00	+	0,37	16 2,37	
	22						66	32	28,80	32	26,00	—	2,80	16 1,60	
	23	6	6	29,24	6	28,80	—	0,44	66	32	50,98	32	52,00	+	1,02 15 59,34
	25						66	35	0,36	34	58,00	—	2,36		
	26						66	36	39,12	36	38,00	—	1,12	16 2,25	
	27						66	38	46,12	38	43,00	—	3,12	16 2,16	
	28						66	41	14,50	41	14,00	—	0,50	16 3,58	
	29	6	31	24,35	31	23,60	—	0,75	66	44	11,45	44	8,00	—	3,45 16 1,66
	30						66	47	30,50	47	27,00	—	3,50		
July	1						66	51	12,76	51	9,00	—	3,76	16 1,67	
	2	6	43	48,73	43	48,40	—	0,33	66	55	20,33	55	17,00	—	3,33 16 0,94
	3	6	47	56,14	47	56,20	+	0,06	66	59	51,96	59	49,00	—	2,96 16 2,36
	5	6	56	10,07	56	10,80	—	0,17	67	10	2,41	10	4,00	+	1,59 16 1,24
	7						67	22	1,28	21	54,00	—	7,28	16 1,25	
	8	7	8	30,58	8	30,40	—	0,18	67	31	24,40	28	25,00	+	0,60
	9						67	35	20,93	35	20,00	—	0,93	16 0,26	
	12	7	24	51,43	24	51,40	—	0,03	67	58	15,41	58	21,00	+	5,59
	13	7	28	55,82	28	55,60	—	0,22	68	6	46,70	6	47,00	+	0,30
	15	7	37	3,29	37	2,50	—	0,79	68	24	41,77	24	46,00	+	4,23 16 0,02
	16						68	34	21,94	34	18,00	—	3,94	16 3,98	
	17						68	44	12,97	44	14,00	+	1,03	16 1,92	
	18						68	54	32,08	54	31,00	—	1,08	16 3,70	
	19						69	5	7,40	5	8,00	+	0,60	16 4,40	
	20						69	16	9,90	16	8,00	—	1,90	16 1,26	
	21						69	27	28,92	27	28,00	—	0,92	15 58,18	
	23						69	51	17,19	51	11,00	—	6,19		
	25	8	17	6,42	17	5,90	—	0,52							
	27	8	24	59,85	24	59,50	—	0,35	70	42	36,84	42	37,00	+	0,16 16 1,94
	28	8	28	55,62	28	55,40	—	0,22	70	56	18,15	56	15,00	—	3,15 16 2,67
	29						71	10	17,36	10	12,00	—	5,36	16 1,94	
30						71	24	27,07	24	29,00	+	1,93	15 59,98		
August	1						71	54	3,50	53	59,00	—	4,50	16 1,58	
	2						72	9	7,58	9	10,00	+	2,42	16 3,65	
	3						72	24	39,17	24	37,00	—	2,17	16 2,23	
	4	8	56	9,79	56	9,70	—	0,09	72	40	20,96	40	24,00	+	3,04 16 3,16
	5	9	0	1,20	0	0,80	—	0,40	72	56	25,53	56	26,00	+	0,47 16 1,40
	6	9	3	51,52	3	51,30	—	0,22	73	12	41,00	12	45,00	+	4,00 15 59,18
	7						73	29	24,87	29	21,00	—	3,87		
	8						73	46	13,25	46	12,00	—	1,25		
	9						74	3	20,28	3	19,00	—	1,28	16 1,68	
	10	9	19	7,60	19	7,40	—	0,20	74	20	46,67	20	42,00	—	4,67 16 3,20
	11	9	22	55,33	22	55,10	—	0,23	74	38	25,82	38	20,00	—	5,82 16 1,24
	12	9	26	42,71	26	42,70	—	0,01	74	56	16,70	56	13,00	—	3,70 15 59,95
	13	9	30	29,74	30	28,90	—	0,84							
	14						74	32	42,15	32	44,00	+	1,85	16 0,00	
	15	9	38	0,76	38	0,30	—	0,46	74	51	21,86	51	19,00	—	2,86 16 2,51

1832	Observed R.A.			A.R. from Nautical Almanac.		Error of Tables.	Observed N.P.D.			N.P.D. from Nautical Almanac.		Error of Tables.	Mean Semi-dia- meter.				
	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>'</i>	<i>"</i>			
Nov.	6	14	44	42,88	44	42,30	—	0,58	105	56	47 82	56	48 00	+	0,18	16	2,43
	14	.....	.....	.....	.....	.....	.....	.....	108	12	10,38	12	15,00	+	4,62	16	3,08
	16	.....	.....	.....	.....	.....	.....	.....	108	42	56,50	43	2,00	+	5,50	.....	.....
	17	14	29	25 78	29	25,60	—	0,18	.....	.....	.....	.....	.....	.....	.....	16	1,70
	18	14	33	35 32	33	34 70	—	0,62	109	12	23,54	12	29,00	+	5,46	16	0,66
	19	14	37	44 48	37	44,40	—	0,08	109	26	42 72	26	43 00	+	0,28	16	1,15
	20	.....	.....	.....	.....	.....	.....	.....	109	40	35,26	40	35,00	—	0,26	.....	.....
	22	15	50	19,06	50	18,60	—	0,46	110	7	16,74	7	13 00	—	3 74	.....	.....
	23	15	54	31,45	54	31,40	—	0,05	110	19	59,62	19	59,00	—	0,62	16	2,53
	24	.....	.....	.....	.....	.....	.....	.....	110	32	27,00	32	23 00	—	4,00	.....	.....
	25	.....	.....	.....	.....	.....	.....	.....	110	44	21,60	44	23,00	+	1,40	.....	.....
	28	.....	.....	.....	.....	.....	.....	.....	111	18	3,82	18	4,00	+	0,18	16	0,44
	29	.....	.....	.....	.....	.....	.....	.....	111	28	26,70	28	31,00	+	4 30	16	1,75
Dec.	1	.....	.....	.....	.....	.....	.....	.....	111	48	4,13	48	8,00	+	3,87	16	3,22
	2	.....	.....	.....	.....	.....	.....	.....	111	57	19,23	57	20 00	+	0,77	16	0,77
	3	16	37	21,84	37	21,30	—	0,54	112	6	4,65	6	6,00	+	1,35	16	2,34
	5	.....	.....	.....	.....	.....	.....	.....	112	22	19,90	22	22,00	+	2,10	15	57,60
	6	16	50	26,18	50	25,30	—	0,88	112	29	46,61	29	50 00	+	3,39	15	59,68
	7	16	54	48,07	54	47 70	—	0,37	112	36	50,59	36	50,00	—	0,59	15	57,90
	8	16	59	10,94	59	10,70	—	0,24	112	43	20,30	43	29 00	+	8,70	16	3,36
	9	.....	.....	.....	.....	.....	.....	.....	112	49	31,06	49	37,00	+	5 94	16	2,58
	10	.....	.....	.....	.....	.....	.....	.....	112	55	12,84	55	10,00	—	2 84	16	2,33
	11	17	14	22,42	12	22,20	—	0,22	113	0	29,49	0	34,00	+	4 51	16	3,23
	12	17	16	47,39	16	46,90	—	0,49	113	5	13,94	5	21,00	+	7,06	16	2,60
	14	.....	.....	.....	.....	.....	.....	.....	113	13	25 90	13	33,00	+	7,10	.....	.....
	15	.....	.....	.....	.....	.....	.....	.....	113	16	51 90	16	57,00	+	5,10	16	0,15
	18	.....	.....	.....	.....	.....	.....	.....	113	24	17,72	24	23,00	+	5,28	.....	.....
	19	17	47	48,04	47	47,50	—	0,54	113	25	50 71	25	53 00	+	2 2	.....	.....
	20	17	52	15,12	52	14,00	—	1,12	113	26	53,65	26	56 00	+	2,35	6	0,15
	22	.....	.....	.....	.....	.....	.....	.....	113	27	32,56	27	39,00	+	6,44	16	0,00
	23	18	5	33,90	5	33,60	—	0,30	113	27	13 71	27	19,00	+	5,29	16	2,32
	24	.....	.....	.....	.....	.....	.....	.....	113	26	20 51	26	29,00	+	8,49	16	1,84
	26	18	18	53 37	18	53,20	—	0,17	113	23	18,50	23	24,00	+	5,50	16	1,75
	27	18	23	19 90	23	19 50	—	0,40	113	21	5 75	21	10,00	+	4 25	16	3,56
	29	18	32	12,21	32	11,60	—	0,61	113	15	9 69	15	17,00	+	7,31	16	3,14
	30	18	36	37 59	36	37,30	—	0,29	113	11	32,74	11	39,00	+	6,26	16	1,08
	31	18	41	3,31	41	3,00	—	0,31	113	7	26,81	7	32,00	+	5,19	16	0,46

Taking the mean of the above measures of the
 Sun's Semi-diameter for 1832 we have from 258 Observations....16' 1",52
 ————— 1833 ————— 257 —————16' 1",30
 differing very little from that found from the Observations of 1831.*

We will now select from the above, those observations which are made near to the Solstices, for the determination of the value of the obliquity of the Ecliptic as follows.

* Vol. I Page 69, ☉s. Mean Semi-diameter for 16' 0",15 read 16' 1",15.

*Observations of the Sun made near to the Summer Solstices of 1832 and 1833,
applied to the determination of the obliquity of the Ecliptic.*

1832	N. P. D.			Reduction.			Sun's Latitude.	Solsticial N.P.D.			Correction for		Mean N.P.D. of the Solstice reduced to January 1.		
											Dr. Nut.	Or. Nut t. 0", 46 + 365			
May	30	68 12 49 40	1 40 26,74	—	0 89	66 32 21,77	—	5,45	—	0,58	66 32 15,74				
	31	68 4 1,99	1 31 42 77	—	0,78	66 32 18,44	—	5,44	—	0,60	66 32 12,40				
June	1	67 55 44 58	1 23 22,12	—	0,64	66 32 21,82	—	5,43	—	0,61	66 32 15,78				
	2	67 47 43 95	1 15 24,23	—	0,48	66 32 19,24	—	5,43	—	0,63	66 32 13,18				
	3	67 40 13,26	1 7 49,63	—	0 33	66 32 23,30	—	5,42	—	0,64	66 32 17,24				
	4	67 33 0 66	1 0 38,25	—	0,17	66 32 22 24	—	5,41	—	0,65	66 32 16,18				
	5	67 26 14 34	0 53 50,42	—	0,02	66 32 23,90	—	5 40	—	0,66	66 32 17,84				
	6	67 19 51,10	0 47 26,50	+	0,11	66 32 24,71	—	5,39	—	0,67	66 32 18,65				
	7	67 13 48,35	0 41 26,23	+	0 25	66 32 22,37	—	5,38	—	0,68	66 32 16,31				
	8	67 8 8,77	0 35 50,30	+	0,33	66 32 18,80	—	5,38	—	0,69	66 32 12,73				
	9	67 3 4 85	0 30 38,07	+	0,40	66 32 27,18	—	5,37	—	0,70	66 32 21,11				
	10	66 58 8 42	0 25 50,08	+	0,42	66 32 18,76	—	5,36	—	0,71	66 32 12,69				
	11	66 53 50,47	0 21 26,12	+	0,43	66 32 24,78	—	5,36	—	0,71	66 32 12,71				
	12	66 49 48,77	0 17 27,08	+	0,39	66 32 22,08	—	5,35	—	0,72	66 32 16,01				
	13	66 46 15,80	0 13 52,37	+	0,32	66 32 23,75	—	5,34	—	0,73	66 32 17,68				
	14	66 43 5,01	0 10 41,97	+	0 20	66 32 23,24	—	5,34	—	0,73	66 32 17,17				
	15	66 40 19,76	0 7 56,09	+	0,10	66 32 23,77	—	5,33	—	0,74	66 32 17,70				
	16	66 37 56,16	0 5 35,05	—	0,06	66 32 21,05	—	5,32	—	0,74	66 32 14,99				
	17	66 36 1,30	0 3 38 63	—	0 23	66 32 22,44	—	5,32	—	0,75	66 32 16,37				
	18	66 34 27,43	0 2 6,94	—	0,37	66 32 20,12	—	5,31	—	0,75	66 32 14,05				
	22	66 32 29,86	0 0 7,95	—	0 85	66 32 21,06	—	5,28	—	0,75	66 32 15,03				
	23	66 33 2 38	0 0 40,25	—	0,88	66 32 21,25	—	5,27	—	0,76	66 32 15,22				
	24	66 34 6,15	0 1 37,28	—	0,89	66 32 27,98	—	5,27	—	0,76	66 32 21,95				
26	66 37 12,21	0 4 45,67	—	0,81	66 32 25,73	—	5,26	—	0,76	66 32 19,71					
27	66 39 18,10	0 6 56,78	—	0,74	66 32 20,38	—	5,25	—	0,76	66 32 14,37					
28	66 41 57,75	0 9 32,85	—	0,59	66 32 24 31	—	5,24	—	0,75	66 32 18,32					
30	66 48 19,61	0 15 58,10	—	0,31	66 32 21,20	—	5,23	—	0,75	66 32 15,22					
July	2	66 56 27 42	0 24 0,90	—	0 00	66 32 26,52	—	5,22	—	0 74	66 32 20 56				
	3	67 1 2,13	0 28 38,57	+	0,15	66 32 23,71	—	5,21	—	0,74	66 32 17,76				
	4	67 6 7,63	0 33 40,30	+	0,26	66 32 27 59	—	5,20	—	0,73	66 32 21,66				
	5	67 11 27,68	0 39 5,92	+	0,36	66 32 22,12	—	5,19	—	0,72	66 32 16,21				
	6	67 17 15 99	0 44 55 45	+	0,42	66 32 20,96	—	5,18	—	0,71	66 32 15,07				
	7	67 23 27,86	0 51 8,68	+	0,46	66 32 19,74	—	5,17	—	0,70	66 32 13,77				
	1833														
May	30	68 14 56 42	1 42 38,98	+	0,28	66 32 18,72	—	2,62	—	0,58	66 32 15,52				
	31	68 6 9,50	1 33 49,77	+	0,25	66 32 19,98	—	2,61	—	0 60	66 32 16,77				
June	1	67 57 43 95	1 25 23,25	+	0,16	66 32 20,86	—	2,60	—	0 61	66 32 17,65				
	2	67 49 39 37	1 17 20,23	+	0,06	66 32 19,20	—	2,59	—	0 63	66 32 15,98				
	3	67 41 58,90	1 9 39,97	—	0,05	66 32 18,88	—	2,58	—	0 64	66 32 15,66				
	4	67 34 46,36	1 2 23,22	—	0,12	66 32 23,02	—	2 57	—	0 65	66 32 19,80				
	5	67 27 49,58	0 55 29,80	—	0 30	66 32 19,48	—	2 57	—	0 66	66 32 16,25				
	6	67 21 22,53	0 49 0,02	—	0,44	66 32 22,07	—	2,56	—	0 67	66 32 18,84				
	7	67 15 12,89	0 42 53,90	—	0,55	66 32 18,44	—	2,55	—	0 68	66 32 15,21				
	8	67 9 35,10	0 37 11,80	—	0,66	66 32 22,64	—	2,54	—	0 69	66 32 19,41				
	9	67 4 14,97	0 31 53,58	—	0,77	66 32 20,62	—	2,53	—	0 70	66 32 17,39				
	11	66 54 51,15	0 22 29,62	—	0,85	66 32 20,68	—	2,52	—	0,71	66 32 17,45				
	12	66 50 48,41	0 18 24,09	—	0,86	66 32 23,46	—	2,51	—	0,72	66 32 20,23				
	13	66 47 6,64	0 14 43 08	—	0,85	66 32 22,71	—	2,50	—	0,73	66 32 19,48				
	14	66 43 49,60	0 11 26,56	—	0,78	66 32 22,26	—	2,49	—	0,73	66 32 19,04				

1833	N. P. D.	Reduction.	Sun's Latitude.	Solstitial N.P.D.	Correction for		Mean N.P.D. of the Solstice reduced to January 1.	
					Dr. Nut.	Gr. Nut. $\frac{t. 0'',46}{365}$		
June	19	66 33 37,07	0 1 13,92	— 0,20	66 32 22,95	— 2,45	— 0,75	66 32 19,75
	20	66 32 45,59	0 0 23,75	— 0,09	66 32 21,75	— 2,44	— 0,75	66 32 18,56
	21	66 32 23,63	0 0 2,44	+ 0,06	66 32 21,25	— 2,43	— 0,76	66 32 18,06
	22	66 32 28,80	0 0 3,87	+ 0,17	66 32 25,10	— 2,42	— 0,76	66 32 21,92
	23	66 32 50,98	0 0 30,18	+ 0,25	66 32 21,05	— 2,41	— 0,76	66 32 17,88
	25	66 35 0,36	0 2 37,15	+ 0,31	66 32 23,52	— 2,40	— 0,76	66 32 20,36
	26	66 36 39,12	0 4 17,67	+ 0,30	66 32 21,75	— 2,39	— 0,76	66 32 18,60
	27	66 38 46,12	0 6 22,88	+ 0,27	66 32 23,51	— 2,38	— 0,76	66 32 20,37
	28	66 41 14,50	0 8 52,72	+ 0,20	66 32 21,98	— 2,37	— 0,75	66 32 18,86
	29	66 44 11,45	0 11 47,10	+ 0,10	66 32 24,45	— 2,36	— 0,75	66 32 21,34
30	66 47 30,50	0 15 5,81	+ 0,04	66 32 24,73	— 2,35	— 0,75	66 32 21,63	
July	1	66 51 12,76	0 18 49,00	— 0,12	66 32 23,64	— 2,34	— 0,74	66 32 20,56
	2	66 55 20,33	0 22 56,44	— 0,25	66 32 23,64	— 2,33	— 0,74	66 32 20,57
	3	66 59 51,96	0 27 27,98	— 0,38	66 32 23,60	— 2,32	— 0,73	66 32 20,55
	5	67 10 2,41	0 37 43,30	— 0,62	66 32 18,49	— 2,30	— 0,72	66 32 15,47
	7	67 22 1,28	0 49 31,80	— 0,78	66 32 25,70	— 2,29	— 0,70	66 32 22,71
	8	67 28 24,40	0 55 4,65	— 0,82	66 32 18,93	— 2,28	— 0,69	66 32 15,96
	9	67 35 20,93	1 2 58,81	— 0,82	66 32 21,30	— 2,27	— 0,68	66 32 18,35

And further we have:

Observations of the Sun made near to the Winter Solstice of 1832 and 1833, applied to the determination of the obliquity of the Eclectic.

1832	N. P. D.	Reduction.	Sun's Lat.tude.	Solstitial N.P.D.	Correction for		Mean N P.D. of the Solstice reduced to January 1.					
					Dr. Nut.	Gr. Nut. + $\frac{t. 0'', 46}{365}$						
Jan.	1	113 5 10,16	0 22 17,90	+	0,74	113 27 28,80	+	6,46	+	0,50	113 27 35,76	
	2	113 0 25,66	0 27 5,68	+	0,62	113 27 31,96	+	6,46	+	0,49	113 27 38,91	
	3	112 55 9,19	0 32 20,98	+	0,51	113 27 30,68	+	6,45	+	0,48	113 27 37,61	
	4	112 49 25,77	0 38 3,80	+	0,37	113 27 29,94	+	6,44	+	0,47	113 27 36,83	
	6	112 36 43,55	0 50 50,74	+	0,07	113 27 34,36	+	6,43	+	0,46	113 27 41,25	
	7	112 29 39,23	0 57 54,64	—	0,09	113 27 33,78	+	6,43	+	0,45	113 27 40,66	
	8	112 22 4,23	1 5 25,20	—	0,24	113 27 29,19	+	6,42	+	0,44	113 27 36,05	
	9	112 14 11,47	1 13 22,27	—	0,38	113 27 33,36	+	6,41	+	0,43	113 27 40,20	
	10	112 5 46,20	1 21 45,94	—	0,47	113 27 31,67	+	6,40	+	0,42	113 27 38,49	
	11	111 56 57,08	1 30 34,67	—	0,55	113 27 31,20	+	6,39	+	0,41	113 27 38,00	
	12	111 47 47,83	1 39 49,30	—	0,58	113 27 36,55	+	6,38	+	0,40	113 27 43,33	
	13	111 38 2,25	1 49 29,18	—	0,59	113 27 30,84	+	6,37	+	0,40	113 27 37,61	
	14	111 28 0,62	1 59 34,57	—	0,55	113 27 34,64	+	6,36	+	0,39	113 27 41,39	
	15	111 17 30,45	2 10 3,90	—	0,51	113 27 33,84	+	6,35	+	0,37	113 27 40,56	
	18	110 43 35,60	2 43 58,52	—	0,16	113 27 33,96	+	6,34	+	0,31	113 27 40,61	
	19	110 31 28,91	2 56 4,98	—	0,02	113 27 33,87	+	6,33	+	0,30	113 27 40,50	
	21	110 6 10,93	3 21 25,43	+	0,26	113 27 36,62	+	6,32	+	0,27	113 27 43,21	
	Nov.	21	109 57 12,86	3 30 25,78	+	0,81	113 27 39,45	+	4,14	+	0,66	113 27 44,25
		22	110 10 16,30	3 17 22,52	+	0,75	113 27 39,57	+	4,13	+	0,68	113 27 44,38
23		110 22 53,92	3 4 41,40	+	0,70	113 27 36,02	+	4,13	+	0,69	113 27 40,84	
24		110 35 16,84	2 52 22,67	+	0,58	113 27 40,09	+	4,12	+	0,71	113 27 44,92	
25		110 47 4,37	2 40 26,83	+	0,46	113 27 31,66	+	4,11	+	0,72	113 27 36,49	
26		110 58 39,92	2 28 55,10	+	0,31	113 27 35,33	+	4,11	+	0,74	113 27 40,18	
27		111 9 50,58	2 17 46,50	+	0,17	113 27 37,25	+	4,10	+	0,75	113 27 42,10	

RESULT OF OBSERVATIONS IN 1832 AND 1833.

1832	N. P. D.			Reduction.			Sun's Latitude.	Solstitial N.P.D.			Correction for		Mean N.P.D. of the Solstice reduced to January 1.
											Dr. Nut	Cor. Nut t. 0°.46 + 365	
Nov. 30	111	40	51.80	1	46	46.25	—	0,25	113	27	37.80	+ 4,08	+ 0.81 113 27 42.69
Dec. 1	111	53	21.68	1	37	15.05	—	0,37	113	27	36.36	+ 4,07	+ 0.83 113 27 41.26
6	112	31	23.66	0	56	5.65	—	0,45	113	27	28.86	+ 4,02	+ 0.91 113 27 33.79
7	112	38	26.97	0	49	9.87	—	0,37	113	27	36.47	+ 4,02	+ 0.92 113 27 41.41
8	112	44	48.70	0	42	41.35	—	0,26	113	27	29.79	+ 4,01	+ 0.93 113 27 34.53
13	113	10	29.95	0	17	2.08	+	0,46	113	27	32.49	+ 3,98	+ 0.94 113 27 37.41
16	113	20	18.29	0	7	9.60	+	0,77	113	27	28.66	+ 3,97	+ 0.95 113 27 33.38
17	113	22	43.35	0	4	48.08	+	0,80	113	27	32.23	+ 3,96	+ 0.96 113 27 37.15
18	113	24	34.88	0	2	54.55	+	0,82	113	27	30.25	+ 3,95	+ 0.97 113 27 35.17
19	113	26	5.56	0	1	29.03	+	0,77	113	27	35.36	+ 3,94	+ 0.98 113 27 40.28
21	113	27	28.31	0	0	3.70	+	0,61	113	27	32.62	+ 3,93	+ 0.98 113 27 37.34
22	113	27	30.39	0	0	1.35	+	0,49	113	27	32.23	+ 3,92	+ 0.99 113 27 37.14
23	113	26	59.08	0	0	29.45	+	0,34	113	27	28.87	+ 3,90	+ 0.99 113 27 33.71
24	113	26	8.63	0	1	25.86	+	0,19	113	27	34.68	+ 3,89	+ 0.98 113 27 39.65
25	113	24	46.15	0	2	50.58	+	0,05	113	27	36.78	+ 3,88	+ 0.97 113 27 41.63
29	113	14	18.81	0	13	13.65	—	0,45	113	27	32.01	+ 3,84	+ 0.97 113 27 36.51
1833													
Jan. 2	112	56	27.69	0	31	2.22	—	0,41	113	27	29.50	+ 3,83	+ 0.19 113 27 33.02
3	112	50	57.16	0	36	38.05	—	0,32	113	27	34.89	+ 3,83	+ 0.18 113 27 39.29
4	112	44	47.52	0	42	41.12	—	0,22	113	27	28.42	+ 3,82	+ 0.17 113 27 32.31
5	112	38	29.28	0	49	11.53	—	0,10	113	27	40.71	+ 3,81	+ 0.16 113 27 44.94
6	112	31	24.20	0	56	8.64	+	0,02	113	27	32.86	+ 3,80	+ 0.15 113 27 37.11
7	112	24	7.26	1	3	32.50	+	0,15	113	27	39.91	+ 3,80	+ 0.45 113 27 44.16
8	112	16	9.68	1	11	22.63	+	0,28	113	27	32.59	+ 3,79	+ 0.41 113 27 36.82
9	112	7	54.75	1	19	39.10	+	0,39	113	27	34.24	+ 3,78	+ 0.43 113 27 38.15
10	111	59	14.10	1	28	21.30	+	0,50	113	27	35.90	+ 3,77	+ 0.42 113 27 40.00
11	111	50	5.69	1	37	29.42	+	0,57	113	27	35.68	+ 3,76	+ 0.41 113 27 39.55
12	111	40	32.15	1	47	3.30	+	0,63	113	27	36.08	+ 3,75	+ 0.40 113 27 40.21
14	111	20	11.59	2	7	26.08	+	0,64	113	27	38.31	+ 3,74	+ 0.37 113 27 42.42
15	111	9	23.54	2	18	14.64	+	0,62	113	27	38.80	+ 3,73	+ 0.35 113 27 41.88
16	110	58	7.80	2	29	27.76	+	0,56	113	27	36.12	+ 3,72	+ 0.34 113 27 40.18
17	110	46	34.06	2	41	4.54	+	0,46	113	27	39.06	+ 3,71	+ 0.32 113 27 43.09
18	110	34	31.29	2	53	5.35	+	0,34	113	27	36.98	+ 3,70	+ 0.31 113 27 40.99
19	110	22	8.15	3	4	29.92	+	0,23	113	27	38.30	+ 3,69	+ 0.30 113 27 42.29
21	109	56	14.36	3	31	26.05	—	0,03	113	27	40.38	+ 3,67	+ 0.27 113 27 44.32
22	109	42	43.05	3	44	58.18	—	0,17	113	27	41.06	+ 3,66	+ 0.26 113 27 44.98
23	110	7	16.74	3	20	25.05	—	0,33	113	27	41.46	+ 1,13	+ 0.68 113 27 43.27
24	110	19	59.62	3	7	39.08	—	0,32	113	27	38.38	+ 1,12	+ 0.69 113 27 40.19
25	110	32	27.00	2	55	15.76	—	0,29	113	27	42.47	+ 1,12	+ 0.71 113 27 44.30
28	111	18	3.82	2	43	15.06	—	0,23	113	27	36.43	+ 1,11	+ 0.73 113 27 38.27
29	111	28	26.70	2	9	34.42	+	0,12	113	27	38.36	+ 1,10	+ 0.79 113 27 40.25
Dec. 1	111	48	4.13	1	59	8.50	+	0,26	113	27	35.46	+ 1,09	+ 0.80 113 27 37.35
2	111	57	19.23	1	39	30.70	+	0,53	113	27	35.36	+ 1,07	+ 0.83 113 27 37.26
3	112	6	4.65	1	30	19.43	+	0,64	113	27	39.30	+ 1,06	+ 0.84 113 27 41.20
5	112	22	19.90	1	21	33.02	+	0,74	113	27	38.41	+ 1,05	+ 0.86 113 27 40.32
6	112	29	46.61	1	5	17.52	+	0,85	113	27	38.27	+ 1,04	+ 0.88 113 27 40.19
7	112	36	50.59	0	57	48.95	+	0,87	113	27	36.43	+ 1,03	+ 0.89 113 27 38.35
8	112	43	20.30	0	50	46.58	+	0,88	113	27	38.05	+ 1,03	+ 0.90 113 27 39.98
9	112	49	31.06	0	44	11.02	+	0,81	113	27	32.13	+ 1,02	+ 0.91 113 27 34.06
10	112	55	12.84	0	38	2.23	+	0,75	113	27	34.04	+ 1,01	+ 0.92 113 27 35.97
11	113	0	29.49	0	32	20.50	+	0,66	113	27	34.00	+ 1,00	+ 0.93 113 27 35.93
12	113	5	13.94	0	27	5.50	+	0,54	113	27	35.53	+ 0,99	+ 0.94 113 27 37.46
				0	22	18.65	+	0,42	113	27	33.01	+ 0,98	+ 0.95 113 27 34.94

1833	N. P. D.			Reduction.	Sun's Latitude.	Solstitial N.P.D.	Correction for			Mean N.P.D. of the Solstice reduced to January 1.			
							Dr. Nut.	Or. Nut t. 0",46 + 365					
Dec.	14	113	13 25,90	0 14	7,12	+	0,17	113 27 33,19	+	0,97	+	0,96	113 27 35,12
	15	113	16 51,90	0 10	42,95	+	0,05	113 27 34,90	+	0,96	+	0,97	113 27 36,83
	18	113	24 17,72	0 3	17,62	—	0,20	113 27 35,14	+	0,93	+	0,99	113 27 37,06
	19	113	25 50,71	0 1	46,73	—	0,23	113 27 37,21	+	0,92	+	0,99	113 27 39,12
	20	113	26 53,65	0 0	43,16	—	0,24	113 27 36,57	+	0,91	+	1,00	113 27 38,48
	22	113	27 32,56	0 0	0,92	—	0,14	113 27 33,34	+	0,90	+	1,00	113 27 35,24
	23	113	27 13,71	0 0	22,10	—	0,04	113 27 35,77	+	0,89	+	1,00	113 27 37,66
	24	113	26 20,51	0 1	11,90	+	0,07	113 27 32,48	+	0,88	+	0,99	113 27 34,35
	26	113	23 18,50	0 4	16,00	+	0,29	113 27 34,79	+	0,86	+	0,98	113 27 36,63
	27	113	21 5,75	0 6	30,25	+	0,44	113 27 36,44	+	0,85	+	0,98	113 27 38,27
	29	113	15 9,69	0 12	23,40	+	0,68	113 27 33,77	+	0,83	+	0,97	113 27 35,57

Taking the means we have :

Mean Obliquity January 1, 1832.

From 33 Observations of the Summer Solstice of 1832..... 23 27 43 59
 From 33 ————— of 1833 23° 27' 41",29 — 0",46.... 23 27 40,83

Obliquity from Summer Solstices of 1832 and 1833 = 23 27 42,21

From 40 Observations at the Winter Solstice of 1832-33..... 23 27 39,20
 From 47 ————— of 1833-34 23° 27' 39",07 — 0",46.. 23 27 38,52

Obliquity from Winter Solstices of 1832 and 1833 = 23 27 38,83

Finally we have from the means of the whole..... 23 27 40 52

We will now from the Observations of the Sun near to the time of the Equinoxes compare the Right Ascension as determined by the Transit Instrument with that computed from the observed N. P. D.

Observations of the Sun made near to the Vernal Equinox in 1832 and 1833, applied to the determination of the error of the assumed Equinoctial Point.

1832	Reduced N.P.D. of the Sun.			Correc- tion.	N. P. D. reduced on account of Sun's Latitude.			Computed A. R.	Observed A.R.	Error of Eq.Point.	REMARKS.
	°	'	"		°	'	"	h. m. s.	m. s.	s.	
February 10	104	38	3,00	—	0,69	104	38 2,31	21 32 2,41	32 1,90	—	0,51
11	104	18	41,46	—	0,64	104	18 40,82	21 35 59,16	35 59,42	+	0,26
12	103	58	58,84	—	0,55	103	58 58,29	21 39 56,50	39 56,67	+	0,17
14	103	19	0,46	—	0,29	103	19 0,17	21 47 47,29	47 46,51	—	0,78
15	102	58	40,60	+	0,18	102	58 40,78	21 51 41,66	51 41,44	—	0,22

1832	Reduced N.P.D. of the Sun.			Correc- tion.	N. P. D. reduced on account of Sun's Latitude.			Computed A. R.			Observed A.R.		Error of Eq. Point.	REMARKS.		
	°	'	"	"	°	'	"	h.	m.	s.	m.	s.	s.			
February	17	102	17	24,55	+	0,21	102	17	24,76	21	59	28,26	59	27,62	—	0,64
	18	101	56	29,40	+	0,23	101	56	29,63	22	3	20,34	3	19,98	—	0,36
	20	101	14	6,88	+	0,45	101	14	7,33	22	11	2,18	11	2,05	—	0,13
	21	100	52	35,17	+	0,50	100	52	35,67	22	14	52,60	14	52,05	—	0,55
	22	100	30	59,96	+	0,53	100	31	0,49	22	18	41,77	18	41,41	—	0,36
	23	100	9	14,08	+	0,55	100	9	14,63	22	22	30,20	22	30,61	+	0,41
	24	99	47	16,27	+	0,52	99	47	16,79	22	26	18,47	26	18,67	+	0,20
	25	99	25	5,41	+	0,46	99	25	5,87	22	30	6,85	30	6,02	—	0,83
	26	99	2	47,56	+	0,35	99	2	47,91	22	33	54,39	33	53,64	—	0,75
March	1	97	32	35,88	—	0,20	97	32	35,68	22	48	56,18	48	55,93	—	0,25
	2	97	9	40,18	—	0,38	97	9	39,80	22	52	41,22	52	40,20	—	1,02
	3	96	46	46,24	—	0,52	96	46	45,72	22	56	24,52	56	24,18	—	0,34
	4	96	23	43,27	—	0,63	96	23	42,64	23	0	7,87	0	7,21	—	0,66
	5	96	0	38,10	—	0,69	96	0	37,41	23	3	50,27	3	50,45	+	0,18
	6	95	37	17,60	—	0,75	95	37	16,85	23	7	33,89	7	33,06	—	0,83
	7	95	14	8,80	—	0,80	95	14	8,00	23	11	14,53	11	15,11	+	0,58
	8	94	50	45,89	—	0,81	94	50	45,08	23	14	56,36	14	56,67	+	0,31
	9	94	27	20,70	—	0,76	94	27	19,94	23	18	37,56	18	37,99	+	0,43
	10	94	3	45,61	—	0,69	94	3	44,92	23	22	19,43	22	18,97	—	0,46
	11	93	40	16,45	—	0,59	93	40	15,86	23	25	59,56	26	0,07	+	0,51
	12	93	16	34,74	—	0,46	93	16	34,28	23	29	40,93	29	39,62	—	1,31
	13	92	53	3,09	—	0,30	92	53	2,79	23	33	20,07	33	19,43	—	0,64
	14	92	29	24,00	—	0,17	92	29	23,83	23	36	59,81	36	59,13	—	0,68
	15	92	5	48,99	—	0,03	92	5	48,96	23	40	38,43	40	38,44	+	0,01
	16	91	42	4,68	+	0,11	91	42	4,79	23	44	18,12	44	17,49	—	0,63
	17	91	18	26,27	+	0,23	91	18	26,50	23	47	56,55	47	56,47	—	0,08
	18	90	54	47,50	+	0,35	90	54	47,85	23	51	34,77	51	35,02	+	0,25
	19	90	31	7,53	+	0,42	90	31	7,95	23	55	13,02	55	13,50	+	0,48
	20	90	7	25,25	+	0,47	90	7	25,72	23	58	51,53	58	52,11	+	0,58
	21	89	43	42,84	+	0,47	89	43	43,31	0	2	30,04	2	30,28	+	0,24
	22	89	20	6,12	+	0,44	89	20	6,56	0	6	7,73	6	8,27	+	0,54
	23	88	56	24,08	+	0,39	88	56	24,47	0	9	46,38	9	46,31	—	0,07
	24	88	32	40,98	+	0,29	88	32	41,27	0	13	25,39	13	24,39	—	1,00
	25	88	9	11,58	+	0,17	88	9	11,75	0	17	2,58	17	2,32	—	0,26
	26	87	45	38,10	+	0,04	87	45	38,14	0	20	40,75	20	40,24	—	0,51
	27	87	22	8,80	—	0,11	87	22	8,69	0	24	18,71	24	18,21	—	0,50
28	86	58	50,12	—	0,26	86	58	49,86	0	27	55,53	27	56,14	+	0,61	
30	86	12	1,12	—	0,54	86	12	0,58	0	35	12,77	35	12,60	—	0,17	
31	85	48	52,19	—	0,67	85	48	51,52	0	38	50,03	38	50,74	+	0,71	
April	1	85	25	35,96	—	0,78	85	25	35,18	0	42	29,22	42	29,22	—	0,00
	2	85	2	39,39	—	0,84	85	2	38,55	0	46	6,21	46	7,69	+	1,48
	3	84	39	36,02	—	0,86	84	39	35,16	0	49	45,22	49	46,12	+	0,90
	4	84	16	35,87	—	0,84	84	16	35,03	0	53	24,77	53	24,51	—	0,26
	5	83	53	45,69	—	0,81	83	53	44,88	0	57	3,84	57	3,39	—	0,45
	6	83	31	1,49	—	0,75	83	31	0,74	1	0	43,15	0	42,48	—	0,67
	15	80	12	31,85	+	0,35	80	12	32,20	1	33	43,40	33	43,40	—	0,00
	16	79	51	10,54	+	0,38	79	51	10,92	1	37	25,33	37	25,75	+	0,42
1833																
February	10	104	23	34,23	+	0,56	104	23	34,79	21	34	59,87	34	59,51	—	0,36
	12	103	44	4,78	+	0,47	103	44	5,25	21	42	53,67	42	53,30	—	0,37
	13	103	24	1,74	+	0,38	103	24	2,12	21	46	48,98	46	48,61	—	0,37
	15	102	43	13,18	+	0,18	102	43	13,36	21	54	38,10	54	36,82	—	1,28
	16	102	22	39,38	+	0,05	102	22	39,43	21	58	29,85	58	30,01	+	0,16

1833	Reduced N. P. D. of the Sun.			Correc- tion.	N. P. D. Reduced on account of Sun's latitude			Computed A. R.			Observed A. R.			Error of Eq. Point.	REMARKS.	
	°	'	"		°	'	"	h.	m.	s.	m.	s.	s.			
February	17	102	1	44,63	—	0,09	102	1	44,57	22	2	22,59	2	22,58	—	0,01
	18	101	40	38,74	—	0,22	101	40	38,52	22	6	14 58	6	14 37	—	0,21
	19	101	19	23,09	—	0,34	101	19	22,75	22	10	5,66	10	5,21	—	0,45
	21	100	36	23,80	—	0,51	100	36	23,29	22	17	45,14	17	45,75	+	0,61
	25	99	8	20,59	—	0,53	99	8	20,06	22	32	58,25	32	58,11	—	0,14
	26	98	45	58 69	—	0,48	98	45	58,21	22	36	44 95	36	44,77	—	0,18
	27	98	23	31,78	—	0,38	98	23	31,40	22	40	30,63	40	30,64	+	0,01
	28	98	0	52,63	—	0,28	98	0	52,35	22	44	16,58	44	16,18	—	0,40
March	1	97	38	12,79	—	0,19	97	38	12 60	22	48	0,95	48	1,02	+	0,07
	2	97	15	21,56	—	0,06	97	15	21,50	22	51	45,61	51	45,46	—	0,15
	3	96	52	30,74	+	0,06	96	52	30,80	22	55	28,69	55	29,32	+	0,63
	4	96	29	27,33	+	0 18	96	29	27,51	22	59	12,41	59	12,55	+	0,14
	5	96	6	22 57	+	0,28	96	6	22,85	23	2	55,03	2	55,14	+	0,11
	6	95	43	9,59	+	0 38	95	43	9,97	23	6	37,72	6	37,87	+	0,15
	7	95	19	58,31	+	0 45	95	19	58,76	23	10	19,00	10	19 71	+	0,71
	9	94	33	12 83	+	0,47	94	33	13,30	23	17	42 09	17	42,63	+	0,54
	10	94	9	41,96	+	0 45	94	9	45,41	23	21	23,06	21	23,59	+	0,53
	11	93	46	6,52	+	0 40	93	46	6,92	23	25	4,85	25	4,17	—	0 68
	13	92	58	59,66	+	0,21	92	58	59,87	23	32	24,73	33	24,34	—	0 39
	15	92	11	45,46	—	0,02	92	11	45,44	23	39	43,47	39	43,47	—	0 00
	19	90	36	56,16	—	0,49	90	36	55,67	23	54	19,60	54	19,30	—	0,30
	21	89	49	34,57	—	0,64	89	49	33,93	0	1	36,19	1	36,46	+	0,27
	22	89	25	54,83	—	0 65	89	25	54,18	0	5	14,31	5	14,68	+	0,37
	23	89	2	12,24	—	0,65	89	2	11 59	0	8	52,97	8	52 94	—	0,03
	25	88	14	57,74	—	0,68	88	14	57,06	0	16	9,32	16	9,05	—	0,27
	26	87	51	22,43	—	0,50	87	51	21,93	0	19	47,62	19	46,96	—	0,66
	27	87	27	56,06	—	0 40	87	27	55,66	0	23	24,96	23	25,21	+	0,25
29	86	41	6,18	—	0,17	86	41	6,01	0	30	40,74	30	41,03	+	0,29	
30	86	17	41,50	—	0,05	86	17	41,45	0	34	19,52	34	18 96	—	0,56	
April	1	85	31	19,65	+	0,20	85	31	19,85	0	41	34,97	41	34,99	+	0,02
	2	85	8	19,02	+	0,29	85	8	19,31	0	45	12,33	45	13,33	+	1,00
	3	84	45	17,78	+	0,36	84	45	18,14	0	48	50 76	48	51,63	+	0,87
	4	84	22	15 83	+	0,38	84	22	16,21	0	52	30,29	52	30 08	—	0,21
	5	83	59	24,94	+	0,39	83	59	25,33	0	56	9,18	56	8,63	—	0,55
	6	83	36	42,09	+	0 40	83	36	42 49	0	59	47,97	59	47,96	—	0,01
	7	83	14	5,33	+	0,35	83	14	5,68	1	3	27,03	3	26,81	—	0 22
	8	82	51	36,47	+	0 28	82	51	36,75	1	7	6,16	7	6,06	—	0,10
	9	82	29	14,25	+	0,18	82	29	14,43	1	10	45 61	10	45,34	—	0,27
	14	80	39	28 60	—	0 45	80	39	28,15	1	29	6 19	29	7,01	+	0,82
	17	79	35	18,23	—	0 74	79	35	17,49	1	40	11,64	40	12 38	+	0,74
	19	78	53	18,19	—	0 75	78	53	17,44	1	47	37,84	47	37,39	—	0,45
	20	78	32	37,70	—	0 73	78	32	36 97	1	51	20,97	51	20,78	—	0,19
	22	77	51	45,72	—	0 59	77	51	45,13	1	58	49,40	58	48,71	—	0,69

NOTE.—In the foregoing computations, and in those which follow, the Sun's Latitude has been computed from VINCE's Tables for the year 1832, and copied from the Nautical Almanac for the year 1833: the values of the obliquity of the Ecliptic employed are those given in the Supplements to the Nautical Almanac.

RESULT OF OBSERVATIONS IN 1832 AND 1833.

And further we have:

Observations of the Sun made near to the Autumnal Equinox in 1832 and 1833, applied to the determination of the error of the assumed Equinoctial Point.

1832	Reduced N.P.D. of the Sun.			Correc- tion.	N. P. D. Reduced on account of Sun's Latitude.			Computed A. R.			Observed A.R.			Error of Eq. Point.	REMARKS.
	°	'	"	"	°	'	"	h.	m.	s.	m.	s.	s.		
August	19	77	12	34.40	—	0,75	77 12 33,65	9	53	50.10	53	50,86	+	0,76	
	20	77	32	15,95	—	0,57	77 32 15,38	9	57	32,69	57	33,69	+	1,00	
	21	77	52	9,12	—	0,50	77 52 8,62	10	1	14,74	1	15,59	+	0,85	
	22	78	12	17,81	—	0,39	78 12 17,42	10	4	57,07	4	57,57	+	0,50	
	23	78	32	34,72	—	0,29	78 32 34,43	10	8	38,40	8	38,75	+	0,35	
	25	79	13	50,09	+	0,10	79 13 50,19	10	16	1,40	16	0,87	—	0,53	
	27	79	55	35,70	+	0,37	79 55 36,07	10	23	20,81	23	20,62	—	0,19	
	28	80	16	40,24	+	0,48	80 16 40,72	10	26	59,46	27	0,20	+	0,74	
	29	80	38	4,17	+	0,57	80 38 4,74	10	30	39,46	30	39,24	—	0,22	
	30	80	59	26,61	+	0,60	80 59 27,21	10	34	17,32	34	17,75	+	0,43	
	31	81	21	0,28	+	0,62	81 21 0,90	10	37	55,15	37	56,23	+	1,08	
September	4	82	48	42,95	+	0,31	82 48 43,26	10	52	25,48	52	25,74	+	0,26	
	6	83	33	16,04	+	0,06	83 33 16,10	10	59	38,73	59	39,23	+	0,50	
	7	83	55	43,26	—	0,08	83 55 43,18	11	3	15,17	3	15,93	+	0,76	
	9	84	41	2,89	—	0,37	84 41 2,52	11	10	28,67	10	27,91	—	0,76	
	10	85	3	47,45	—	0,49	85 3 46,96	11	14	4,63	14	4,16	—	0,47	
	15	86	58	30,78	—	0,63	86 58 30,15	11	32	1,45	32	1,05	—	0,40	
	16	87	21	38,43	—	0,53	87 21 37,90	11	35	36,58	35	36,33	—	0,25	
	20	88	54	42,27	—	0,00	88 54 42,27	11	49	57,91	49	58,33	+	0,42	
	21	89	18	7,92	+	0,16	89 18 8,08	11	53	34,07	53	34,02	—	0,05	
	23	90	5	1,09	+	0,44	90 5 1,53	12	0	46,25	0	45,77	—	0,48	
	24	90	28	22,24	+	0,57	90 28 22,81	12	4	21,60	4	21,46	—	0,14	
October	25	90	51	48,97	+	0,65	90 51 49,62	12	7	57,81	7	57,55	—	0,26	
	26	91	15	13,55	+	0,70	91 15 14,25	12	11	33,85	11	33,26	—	0,59	
	27	91	38	35,55	+	0,71	91 38 36,26	12	15	9,73	15	10,66	+	0,93	
	28	92	2	2,24	+	0,72	92 2 2,96	12	18	46,59	18	46,92	+	0,33	
	30	92	48	47,45	+	0,57	92 48 48,02	12	26	0,40	26	0,94	+	0,54	
	1	93	12	2,44	+	0,41	93 12 2,85	12	29	36,85	29	37,70	+	0,85	
	2	93	35	28,25	+	0,29	93 35 28,54	12	33	15,61	33	16,41	+	0,80	
	4	94	21	58,44	—	0,00	94 21 58,44	12	40	31,94	40	32,07	+	0,13	
	7	95	31	16,87	—	0,36	95 31 16,51	12	51	28,70	51	28,31	—	0,39	
	8	95	54	12,56	—	0,47	95 54 12,09	12	55	8,03	55	9,28	+	1,25	
	9	96	17	8,14	—	0,52	96 17 7,62	12	58	48,53	58	48,97	+	0,44	
	11	97	2	36,15	—	0,54	97 2 35,61	13	6	9,61	6	10,42	+	0,81	
	12	97	25	17,91	—	0,53	97 25 17,38	13	9	51,89	9	52,25	+	0,36	
	13	97	47	42,99	—	0,43	97 47 42,56	13	13	32,95	13	34,20	+	1,25	
	14	98	10	10,93	—	0,37	98 10 10,56	13	17	16,07	17	16,69	+	0,62	
	15	98	32	28,43	—	0,22	98 32 28,21	13	20	59,15	20	59,66	+	0,51	
	21	100	43	39,23	+	0,61	100 43 39,84	13	43	32,00	43	31,90	—	0,10	
	22	101	4	51,71	+	0,68	101 4 52,39	13	47	18,26	47	19,30	+	1,04	
	23	101	25	59,41	+	0,76	101 26 0,17	13	51	6,11	51	7,33	+	1,22	
	24	101	47	2,79	+	0,80	101 47 3,59	13	54	55,73	54	56,51	+	0,78	
	25	102	7	52,25	+	0,80	102 7 53,05	13	58	45,50	58	45,82	+	0,32	
	26	102	28	29,93	+	0,75	102 28 30,68	14	2	35,87	2	36,37	+	0,50	
	27	102	48	55,17	+	0,67	102 48 55,84	14	6	26,80	6	27,71	+	0,91	
	28	103	9	6,56	+	0,55	103 9 7,11	14	10	18,12	10	19,51	+	1,39	
	29	103	29	9,27	+	0,42	103 29 9,69	14	14	10,91	14	12,06	+	1,15	
	30	103	49	0,54	+	0,24	103 49 0,78	14	18	4,71	18	5,38	+	0,67	

RESULT OF OBSERVATIONS IN 1832 AND 1833.

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1833	Reduced N.P.D. of the Sun.	Correc- tion.	N. P. D. Reduced on account of Sun's Latitude.	Computed A. R.	Observed A.R.	Error of Eq. Point.	REMARKS.
	° ' "	"	° ' "	h. m. s.	m. s.	s.	
August 21	77 47 25,65	+ 0,38	77 47 26,03	10 0 22,75	0 22,75	0,00	
23	78 27 36,67	+ 0,23	78 27 36,90	10 7 44,85	7 46,30	+ 1,45	
September 6	83 27 49,66	— 0,37	83 27 49,29	10 58 46,16	58 46,05	— 0,11	
7	83 50 7,20	— 0,25	83 50 6,95	11 2 21,37	2 22,65	+ 1,28	
8	84 12 40,76	— 0,13	84 12 40,63	11 5 58,00	5 58,18	+ 0,18	
9	84 35 23,52	0,00	84 35 23,52	11 9 34,98	9 35,03	+ 0,05	
10	84 58 10,48	+ 0,12	84 58 10,60	11 13 11,58	13 11,05	— 0,53	
11	85 20 58,43	+ 0,25	85 20 58,68	11 16 47,38	16 46,58	— 0,80	
12	85 43 52,64	+ 0,36	85 43 53,00	11 20 23,30	20 22,64	— 0,66	
13	86 6 42,77	+ 0,45	86 6 43,22	11 23 57,76	23 59,07	+ 1,31	
14	86 29 50,37	+ 0,51	86 29 50,88	11 27 34,22	27 34,41	+ 0,19	
15	86 52 56,52	+ 0,55	86 52 57,07	11 31 9,80	31 10,00	+ 0,20	
16	87 16 6,30	+ 0,54	87 16 6,84	11 34 45,33	34 45,32	— 0,01	
18	88 2 29,35	+ 0,44	88 2 29,79	11 41 55,50	41 56,45	+ 0,95	
26	91 9 35,25	— 0,45	91 9 34,80	12 10 41,60	10 41,70	+ 0,10	
October 2	93 29 47,72	— 0,41	93 29 47,31	12 32 22,37	32 22,92	+ 0,55	
3	93 53 3,65	— 0,31	93 53 3,34	12 36 0,16	36 0,40	+ 0,24	
4	94 16 17,33	— 0,19	94 16 17,14	12 39 38,29	39 38,55	+ 0,26	
6	95 2 38,90	+ 0,08	95 2 38,98	12 46 56,25	46 56,12	— 0,13	
11	96 57 10,39	+ 0,61	96 57 11,00	13 5 16,71	5 17,20	+ 0,49	
13	97 42 21,89	+ 0,65	97 42 22,54	13 12 40,07	12 40,71	+ 0,64	
14	98 4 49,11	+ 0,63	98 4 49,74	13 16 22,69	16 23,46	+ 0,77	
15	98 27 10,50	+ 0,56	98 27 11,06	13 20 5,93	20 6,35	+ 0,42	
16	98 49 23,52	+ 0,48	98 49 24,00	13 23 49,56	23 50,19	+ 0,63	
18	99 33 33,44	+ 0,27	99 33 33,71	13 31 19,73	31 19,47	— 0,26	
19	99 55 20,54	+ 0,16	99 55 20,70	13 35 4,77	35 5,13	+ 0,36	
22	100 59 48,55	— 0,20	100 59 48,35	13 46 23,75	46 25,03	+ 1,28	
23	101 21 4,99	— 0,30	101 21 4,69	13 50 12,53	50 12,57	+ 0,04	
24	101 42 5,42	— 0,37	101 42 5,05	13 54 0,98	54 1,50	+ 0,52	

Taking the means and referring to the Observations of 1831, for the results of that year we have :

ERROR OF THE ASSUMED EQUINOCTIAL POINT.						MEAN.
	s.			s.		s.
1831 From 19 Obs. at Vernal Eq.	+ ,055	from 17 Obs. at Aut. Eq.	+ ,267			+ ,161
1832 — 50 — — — —	,140	48 — — — —	+ ,399			+ ,130
1833 — 48 — — — —	,046	29 — — — —	+ ,325			+ ,140
General Mean.....	— ,068	—	+ ,352			+ ,142

Now the above observed places are derived from the Equinoctial Point assumed by Dr. Maskelyne + 0",20 : hence it appears that *the place of the true Equinox, is Dr. MASKELYNE + 0",058.*

It must here be recollected that the above measures of N. P. D. are derived from a comparison of the observed places of certain fixed Stars, with their places given in the Greenwich Catalogue ; the latter depending upon the

assumption that the latitude of the Greenwich Royal Observatory = $51^{\circ} 28' 39''.00$. Now any error in this assumption will necessarily occasion a similar error in the determination of the North Polar Distance of the Sun, Planets, Moon, and fixed Stars; and further, our result of the latitude of the Madras Observatory determined at Page 95, of Vol. I. will be erroneous to the like amount.

If to the above cause we now refer the disagreement between the Solstitial declination of the Sun in Winter and Summer at Page 79, and the disagreement between the Equinoctial point found from the Spring and Autumn Observations as above; we determines as follows.

						Latitude of Greenwich.		
						.	/	''
To reconcile the Summer and Winter Solstices of 1831.....						51	28	38,29
—	—	—	—	—	— 1832.....	51	28	36,81
—	—	—	—	—	— 1833.....	51	28	37,85
—	—	Spring and Autumn Equinoxes — 1831.....				51	28	38,30
—	—	—	—	—	— 1832.....	51	28	37,26
—	—	—	—	—	— 1833.....	51	28	37,80
Giving to each result the same weight and taking the Mean =						51	28	37,72

and the reduced value of the latitude of the Madras Observatory $13^{\circ} 4' 7''.93$: for the present I propose to consider these determinations too small by half a second at least; an opinion which rests on the improbability that the numerous and carefully made Observations at Greenwich can err to this amount on the one hand, and on the other from the general irregularity of the Solar Observations at Madras, the above result cannot be allowed to determine a point of so much importance and to this degree of accuracy.

With regard to the irregularity just noticed I have to remark, that in this climate the edge of the Sun is frequently ill defined and tremulous, which will account for some of the discordances which are found; whether the fierce rays of a vertical Sun which on one occasion may unavoidably remain longer on the Telescope than at another will account for the rest, is a subject to which I propose immediately to turn my attention.

In the next place we come to the Observations of the Planets; these have been reduced to the *apparent* place, as would be viewed by an observer situated at the centre of the Earth; for this purpose the parallaxes employed have been computed from the Horizontal Parallaxes given in the Supplement to the Nautical Almanac.

Apparent Right Ascension and North Polar Distance of MERCURY.

1832	Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed.	N. P. D.			REMARKS.	
	<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>°</i>	<i>'</i>	<i>"</i>		
February	18	22	52	27,8	Centre:	20	44	22 92	Centre:	109	33	37,96	
March	12	23	49	32,7	—	23	13	5 84	—	97	9	23,59	
April	2	0	52	55,8	—	1	35	30,68	—	.....	.....	.....
	3	0	55	45,8	—	1	42	17,52	—	78	12	35,78	
	4	0	58	28,0	—	1	48	56,37	—	77	23	9,48	
	5	1	0	58,6	—	1	55	24,09	—	76	35	39,44	
	7	1	5	27,5	—	2	7	47,14	—	75	7	23,45	
	9	1	8	58,3	—	2	19	12,22	—	73	48	43,07	
	10	1	10	24,5	—	2	24	35,39	—	73	13	23,41	
October	6	23	7	26,8	—	12	10	54,23	—	89	6	16,89	
November	5	0	13	34,3	—	15	11	35,35	—	108	41	17,75	
	10	0	25	11,1	—	15	42	56,69	—	111	5	10,69	
	12	0	29	56,6	—	15	55	36,31	—	111	55	33,71	
	15	0	37	12,4	—	16	14	42,77	—	113	2	59,82	
	18	0	44	33,3	—	16	33	55,71	—	112	59	58,15	
	19	0	47	2,4	—	16	40	21,68	—	114	16	34,42	
	23	0	56	51,7	—	17	5	58,04	—	115	10	9,17	
December	5	1	20	45,8	—	18	17	14,48	—	115	36	52,37	
	8	1	22	50,6	—	18	31	9,31	—	115	11	51,63	
1833													
March	18	0	59	33,0	—	0	42	2,21	—	84	51	7,51	
	23	1	9	0,8	—	1	11	15,29	—	80	42	17,95	
	25	1	10	58,6	—	1	21	6,36	—	79	17	51,48	
	26	1	11	28,3	—	1	25	32,76	—	78	39	40,16	
	27	1	11	37,4	—	1	29	38,62	—	78	4	34,61	
	28	1	11	24,2	—	1	33	21,79	—	77	32	35,76	
	29	1	10	48,0	—	1	36	42,12	—	77	3	50,33	
April	1	1	6	36,7	—	1	44	19,53	—	75	58	5,46	
May	28	22	36	—	—	.....	.....	.....	—	75	8	57,74	
	31	22	50	36,5	—	3	21	57,46	—	73	21	8,20	
July	17	1	50	—	—	.....	.....	.....	—	74	45	54,00	
October	19	0	21	13,8	—	14	11	17,32	—	103	39	32,36	
	21	0	25	15,4	—	14	23	12,66	—	104	54	19,58	
December	23	22	27	30,1	—	16	37	26,89	—	109	32	19,03	
	25	22	24	44,8	—	16	43	33,15	—	109	58	33,07	

Apparent Right Ascension and North Polar Distance of VENUS.

1832	Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed	N. P. D.			REMARKS.	
	<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>°</i>	<i>'</i>	<i>"</i>		
January	24	21	5	59,0	2 L.	17	19	50,61	Centre.	110	47	53,14	
	26	21	8	1,9	—	17	29	47,29	—	111	2	15,27	
	29	21	11	14,3	—	17	44	48,13	—	111	19	47,23	
	30	21	12	19,3	—	7	49	50,22	—	.....	.....	.....
	31	21	13	23,6	—	17	54	52,60	—	111	28	33,17	
February	1	21	14	30,5	—	17	59	56,21	—	111	32	7,02	
	3	21	16	45,8	—	18	10	4,92	—	111	37	38,93	

Apparent Right Ascension and North Polar Distance of VENUS, continued.

1832	Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed.	N. P. D.			REMARKS.		
	<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>°</i>	<i>'</i>	<i>"</i>			
February	4	21	17	54,1	2 L.	18	15	9,91	Centre.	111	39	27,33		
	5	21	19	0,4	—	18	20	15,42	—	111	40	42,87		
	7	21	21	21,8	—	18	30	27,30	—	111	41	29,47		
	8	21	22	31,8	—	18	35	34,28	—	111	40	45,50		
	11	21	26	0,9	—	18	50	55,45	—	111	35	24,42		
	12	21	27	12,1	—	18	56	2,61	—	111	32	22,38		
	22	21	38	53,4	—	19	47	10,59	—	110	28	46,09		
	23	21	40	—	—	—	—	—	—	110	19	7,20		
	24	21	41	10,0	—	19	57	20,64	—	110	8	50,92		
	25	21	42	15,2	—	20	2	24,93	—	109	58	1,77		
	27	21	44	30,6	—	20	12	31,55	—	109	34	36,02		
	29	21	46	41,0	—	20	22	35,13	—	109	8	56,41		
	March	1	21	47	45,5	—	20	27	36,54	—	108	55	11,00	
		2	21	48	48,6	—	20	32	36,44	—	108	40	58,79	
3		21	49	51,4	—	20	37	36,03	—	108	26	14,11		
4		21	50	54,0	—	20	42	34,88	—	108	10	58,20		
5		21	51	55,7	—	20	47	32,66	—	107	55	9,01		
7		21	53	54,6	—	20	57	26,11	—	107	22	4,86		
11		21	57	43,5	—	21	17	1,75	—	106	9	59,08		
12		21	58	39,2	—	21	21	54,02	—	105	50	49,63		
13		21	59	33,5	—	21	26	45,02	—	105	31	12,87		
15		22	1	18,8	—	21	36	23,79	—	104	50	38,67		
17		22	3	0,5	—	21	45	59,34	—	104	8	21,96		
19		22	4	39,9	—	21	55	31,65	—	103	24	30,87		
26		22	9	59,6	—	22	28	27,31	—	100	40	0,73		
August		13	0	24	39,7	—	9	51	31,40	—	75	35	46,22	
	17	0	28	2,5	—	10	10	41,59	—	77	13	34,46		
	20	0	30	24,3	—	10	24	53,40	—	78	32	45,56		
	21	0	31	—	—	—	—	—	—	78	59	47,08		
September	11	0	52	53,4	—	12	5	49,74	—	89	18	0,54		
	24	0	52	10,2	—	13	4	41,95	—	95	56	45,22		
	26	0	54	14,1	—	13	13	52,42	—	96	59	59,85		
	27	0	54	47,7	—	13	18	25,41	—	97	26	55,75		
October	2	0	57	24,7	—	13	41	30,20	—	99	53	59,97		
	8	1	1	51,2	—	14	9	37,16	—	102	42	49,05		
	12	1	5	8,4	—	14	28	40,84	—	104	29	40,59		
	13	1	6	0,5	—	14	33	29,53	—	104	55	35,06		
	24	1	16	50,4	—	15	27	43,17	—	109	12	55,96		
	25	1	17	56,9	—	15	32	46,23	—	109	33	35,33		
	26	1	19	4,3	—	15	37	50,36	—	109	3	41,23		
	27	1	20	13,3	—	15	42	56,33	—	110	13	15,54		
	28	1	21	23,3	—	15	48	3,08	—	110	32	10,97		
	29	1	22	34,0	—	15	53	10,49	—	110	50	35,90		
	30	1	23	47,7	—	15	58	20,76	—	111	8	28,85		
	31	1	25	1,2	—	16	3	30,85	—	111	25	48,14		
	November	1	1	26	15,9	—	16	8	42,27	—	111	42	27,52	
		3	1	28	49,3	—	16	19	9,33	—	112	14	2,98	
4		1	30	7,8	—	16	24	24,55	—	112	28	49,94		
5		1	31	26,7	—	16	29	40,52	—	112	43	2,71		
10		1	38	17,2	—	16	56	14,91	—	113	44	4,71		
12		1	41	7,4	—	17	6	58,81	—	114	3	44,97		
16		1	46	56,3	—	17	28	34,52	—	114	34	31,04		
17		1	48	21,7	—	17	33	59,99	—	114	40	21,93		
18		1	49	53,4	—	17	39	25,47	—	114	45	26,96		
19		1	51	22,6	—	17	44	52,43	—	114	49	48,88		

Apparent Right Ascension and North Polar Distance of VENUS, continued.

1832	Madras Mean Time of Observations			Point Observed.	A. R.			Point Observed.	N. P. D.			REMARKS.
	<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>°</i>	<i>'</i>	<i>"</i>	
November 23	1	57	21,5	2 L.	18	6	37,81	Centre.	113	59	49,22	
24	1	58	52,0	---	18	12	4,88	---	115	0	23,97	
1833												
April 5	2	40	41,9	---	3	34	56,47	---	65	32	40,62	
6	2	39	47,3	---	3	37	28,85	---	65	20	14,56	
May 6	1	0	53,0	---	3	56	34,24	---	64	40	16,87	
8	0	49	28,0	---	3	53	1,02	---	65	7	36,20	
23 23	10	59,1	---	---	3	17	20,99	---	70	33	47,51	
24 23	5	11,1	---	---	3	15	28,34	---	70	55	35,03	
28 23			---	---	.....			---	72	16	53,49	
29 22			---	---	.....			---	72	35	20,34	
31 22	28	18,6	---	---	3	6	5,63	---	73	9	30,70	
July 15 20	53	2,8	---	---	4	27	59,61	---	72	5	50,59	
23 20	51	26,1	---	---	4	56	54,80	---	70	54	33,73	
25 20	51	26,1	---	---	5	5	47,88	---	70	30	43,62	
26 20	51	30,5	---	---	5	9	48,97	---	70	30	43,83	
28 20	51	43,7	---	---	5	17	55,18	---	70	16	6,49	
29 20	51	53,6	---	---	5	22	1,80	---	70	9	10,41	
August 2 20	52	54,1	---	---	5	38	48,48	---	69	44	38,79	
5 20	53	57,7	---	---	5	51	42,02	---	69	29	51,25	
7 20	54	50,0	---	---	6	0	26,75	---	69	21	57,74	
9 20	55	46,5	---	---	6	9	17,28	---	69	15	42,75	
13 20	57	57,7	---	---	6	27	15,11	---	69	8	29,89	
14 20	58	33,8	---	---	6	31	47,94	---	69	7	51,94	
15 20	59	10,6	---	---	6	36	20,56	---	69	7	41,23	
September 10 21	18	51,8	---	---	8	38	35,88	---	72	4	28,98	
11 21	19	39,8	---	---	8	43	20,68	---	72	19	22,06	
November 27 22	12	20,6	---	---	14	39	44,99	---	103	58	46,42	
December 2 22	17	13,8	---	---	15	4	21,49	---	105	54	50,40	
9 22	24	53,0	---	---	15	39	37,99	---	108	19	52,33	
11 22	27	15,2	---	---	15	49	53,52	---	106	57	5,48	
13 22	28	43,1	---	---	16	0	13,78	---	109	32	12,74	
17 22	34	51,1	---	---	16	21	7,64	---				
18 22	36	7,8	---	---	16	26	24,07	---	110	50	13,16	
25 22	45	51,23	---	---	17	3	44,45	---	112	13	59,69	
26 22	52	29,0	---	---	17	9	7,85	---	112	25	22,81	
30 22	50	24,9	---	---	17	30	47,82	---	112	56	4,43	

Apparent Right Ascension and North Polar Distance of MARS.

1832	Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed.	N. P. D.			REMARKS.
	<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>°</i>	<i>'</i>	<i>"</i>	
January 29	21	16	53,0	Centre.	17	44	48,13	Cent e.	113	45	44,33	
February 3	21	13		---	.....			---	113	50	10,94	
4	21	12	5,0	---	18	9	19,85	---	113	50	25,00	
5	21	11	18,4	---	18	12	29,18	---	113	50	25,38	
6	21	10	30,4	---	18	15	38,43	---	113	50	4,07	
8	21	8	49,0	---	18	21	57,30	---	113	48	52,84	
22	20	58	3,9	---	19	6	14,40	---	113	13	45,41	

Apparent Right Ascension and North Polar Distance of MARS, continued.

1832	Madras Mean Time of Observations.			Point Observed	A. R.			Point Observed	N. P. D.			REMARKS.	
	<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>°</i>	<i>'</i>	<i>"</i>		
February	24	20	56	30.6	Centre.	19	12	33.82	Centre.	113	5	1.29	
	27	20	54	11.7	---	19	23	1.93	---	112	50	9.87	
	28	20	53	24.6	---	19	25	11.15	---	112	44	24.41	
	29	20	52	36.5	---	19	28	19.85	---	112	39	8.92	
March	1	20	51	46.6	---	19	31	28.85	---	112	33	17.45	
	2	20	50	59.1	---	19	34	37.43	---	112	27	15.86	
	3	20	50	11.1	---	19	37	45.86	---	112	20	58.68	
	4	20	49	23.2	---	19	40	54.33	---	112	14	28.83	
	5	20	48	34.6	---	19	44	2.45	---	112	7	41.32	
	6	20	47	46.0	---	19	47	10.19	---	112	0	44.30	
	7	20	46	57.0	---	19	50	17.52	---	111	53	35.82	
	11	20	43	43.3	---	20	2	45.78	---	111	22	41.71	
	12	20	42	50.1	---	20	5	52.49	---	111	14	29.56	
	13	20	41	59.9	---	20	8	58.72	---	111	6	1.33	
	15	20	40	18.7	---	20	15	10.20	---	110	48	33.21	
April	19	20	36	52.8	---	20	27	30.12	---	110	11	10.93	
	20	20	36	0.3	---	20	30	34.26	---	110	1	22.99	
	22	20	29	46.8	---	20	51	55.48	---	108	47	2.00	
	31	20	26	5.8	---	21	3	59.97	---	108	0	43.41	
	1	20	25	10.0	---	21	9	0.29	---	107	48	43.33	
	2	20	24	13.0	---	21	10	0.29	---	107	36	52.83	
	3	20	23	15.9	---	21	12	59.45	---	107	24	13.62	
	5	20	21	21.2	---	21	18	57.50	---	106	59	7.03	
	6	20	20	23.2	---	21	21	55.82	---	106	42	26.18	
	7	20	19	24.6	---	21	24	53.87	---	106	33	23.71	
	12	20	14	26.2	---	21	39	38.65	---	105	26	33.56	
	13	20	13	25.5	---	21	42	34.69	---	105	12	49.08	
	14	20	12	25.0	---	21	45	30.02	---	103	58	49.22	
	21	20	5	10.2	---	22	5	49.00	---	103	17	51.52	
May	30	19	55	23.2	---	22	31	30.00	---	101	0	26.25	
	1	19	54	16.4	---	22	34	19.19	---	100	44	46.00	
	2	19	53	8.6	---	22	37	8.03	---	100	28	58.97	
	4	19	50	53.0	---	22	42	45.21	---	99	57	12.45	
	5	19	49	45.7	---	22	45	33.97	---	99	41	7.02	
	12	19	41	44.8	---	23	5	2.24	---	97	47	15.69	
	14	19	39	17.5	---	23	10	33.11	---	97	14	20.65	
	15	19	38	10.6	---	23	13	18.19	---	96	57	45.87	
	16	19	36	58.1	---	23	16	2.83	---	96	41	11.49	
June	31	19	18	28.4	---	23	56	42.76	---	92	30	43.90	
	9	19	6	58.5	---	0	20	38.52	---	89	59	36.00	
	10	19	5	40.3	---	0	23	16.93	---	89	42	58.04	
	11	19	4	21.8	---	0	25	54.81	---	89	26	26.22	
	12	19	3	3.3	---	0	28	32.67	---	89	9	55.58	
	13	19	1	44.7	---	0	31	10.54	---	88	53	23.68	
	14	19	0	26.0	---	0	33	47.89	---	88	37	0.50	
	15	18	59	6.7	---	0	36	25.19	---	88	20	39.75	
	17	18	56	27.4	---	0	41	38.18	---	87	51	6.83	
	22	18	49	42.1	---	0	54	34.69	---	86	27	47.22	
November	9	12	44	40.3	---	4	0	30.87	---	68	58	16.56	
	15	12	11	47.2	---	3	51	11.51	---	.....	.....	.....
	16	12	6	15.7	---	3	49	35.07	---	69	8	24.93	
	17	12	0	13.7	---	3	47	28.56	---	69	10	16.86	
	22	11	33	7.3	---	3	40	0.72	---	69	21	9.48	
	29	10	55	21.1	---	3	29	41.83	---	69	37	32.37	
	30	10	50	2.1	---	3	28	21.22	---	69	39	55.54	

Apparent Right Ascension and North Polar Distance of MARS, continued.

1832	Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed.	N. P. D.			REMARKS.	
	<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>°</i>	<i>'</i>	<i>"</i>		
December	4	10	29	24,7	Centre.	3	23	26,32	Centre.	69	48	32,52	
	5	10	24	22,1	---	3	22	19,79	---	69	50	32,46	
	6	10	19	25,4	---	3	21	16,19	---	69	52	26,38	
	7	10	14	26,4	---	3	20	15,58	---	69	54	13,71	
	12	9	50	33,2	---	3	16	1,14	---	70	1	29,33	
	13	9	45	56,4	---	3	15	20,07	---	70	2	36,82	
	14	9	41	22,6	---	3	14	42,37	---	.....	.....	.....
	15	9	36	52,7	---	3	14	8,21	---	70	4	16,50	
	16	9	31	25,8	---	3	13	37,59	---	70	4	53,18	
	17	9	28	2,4	---	3	13	10,02	---	70	5	23,91	
	18	9	23	43,9	---	3	12	46,30	---	70	5	41,99	
	20	9	15	14,0	---	3	0	9,63	---	70	5	51,22	
	21	9	11	4,4	---	3	11	55,05	---	70	5	38,49	
	22	9	6	58,5	---	3	11	44,72	---	70	5	21,76	
	24	8	58	56,0	---	3	11	34,27	---	70	4	12,34	
	25	8	54	59,8	---	3	11	33,84	---	70	3	21,52	
	26	8	51	6,4	---	3	11	36,93	---	.....	.....	.....
	27	8	47	17,3	---	3	11	43,82	---	70	1	15,47	
1833													
January	3	8	21	55,3	---	3	13	53,40	---	69	48	46,01	
	4	8	18	29,7	---	3	14	23,77	---	69	46	23,58	
	6	8	11	36,2	---	3	15	32,14	---	69	41	14,46	
	8	8	5	13,4	---	3	16	51,16	---	69	35	34,79	
	9	8	2	6,8	---	3	17	34,74	---	69	32	33,75	
	10	7	58	50,8	---	3	18	20,72	---	69	29	22,98	
	11	7	55	33,2	---	3	19	9,19	---	69	26	9,69	
	14	7	47	22,3	---	3	22	47,53	---	69	15	48,36	
	15	7	43	36,2	---	3	22	46,07	---	69	12	7,58	
	16	7	40	39,5	---	3	23	45,24	---	69	8	21,62	
	17	7	37	45,6	---	3	24	47,60	---	69	4	33,05	
	18	7	34	55,0	---	3	25	53,42	---	69	0	37,68	
	19	7	32	4,7	---	3	26	59,25	---	68	56	37,30	
	20	7	29	16,6	---	3	28	7,41	---	68	52	33,07	
	21	7	26	31,5	---	3	29	18,26	---	68	48	23,36	
	22	7	23	48,0	---	3	31	1,96	---	68	44	9,72	
	23	7	21	6,9	---	3	31	45,70	---	68	39	54,05	
	24	7	18	27,4	---	3	33	2,06	---	68	35	33,48	
	25	7	15	48,6	---	3	34	19,89	---	.....	.....	.....
	27	7	10	38,3	---	3	37	1,80	---	68	22	15,67	
	28	7	8	6,2	---	3	38	25,74	---	68	17	45,32	
	29	7	5	35,3	---	3	39	50,97	---	68	13	11,20	
	30	7	3	6,2	---	3	41	17,88	---	68	8	34,75	
	31	7	0	38,4	---	3	42	46,30	---	68	3	57,06	
February	1	6	58	12,0	---	3	44	16,10	---	67	59	17,90	
	2	6	55	48,1	---	3	45	48,49	---	67	54	40,23	
	4	6	51	3,7	---	3	48	56,47	---	67	45	17,33	
	5	6	48	44,3	---	3	50	33,10	---	67	40	36,12	
	6	6	46	25,3	---	3	52	10,38	---	67	35	54,32	
	8	6	41	52,6	---	3	55	28,75	---	67	26	32,32	
	9	6	39	37,6	---	3	57	11,35	---	67	21	52,31	
	10	6	37	24,9	---	3	58	54,05	---	67	17	12,03	
	11	6	34	12,1	---	3	59	37,96	---	67	12	33,89	

Apparent Right Ascension and North Polar Distance of MARS, continued.

1833	Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed.	N. P. D.			REMARKS.	
	<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>°</i>	<i>'</i>	<i>"</i>		
February	12	6	33	1,6	Centre.	4	2	23,97	Centre.	67	7	56,56	
	13	6	30	52,3	—	4	4	10,84	—	67	3	19,87	
	14	6	28	43,6	—	4	5	58,07	—	66	58	42,76	
	15	6	26	36,6	—	4	7	47,23	—	66	54	9,21	
	16	6	24	30,8	—	4	9	37,51	—	66	49	36,72	
	17	6	22	26,0	—	4	11	29,21	—	66	45	6,48	
	18	6	22	22,4	—	4	13	21,71	—	66	40	43,92	
	24	.....	.....	.....	—	.....	.....	.....	—	66	14	56,56	
	25	6	6	27,0	—	4	27	0,06	—	66	10	50,67	
	26	.....	.....	.....	—	.....	.....	.....	—	66	6	47,32	
27	6	2	37,2	—	4	31	2,83	—	.....	.....	.....
28	6	0	44,5	—	4	33	6,37	—	65	58	55,67		
March	1	5	58	50,9	—	4	35	8,99	—	65	55	6,03	
	2	5	56	58,9	—	4	37	13,45	—	65	51	20,89	
	3	5	55	8,0	—	4	39	18,88	—	65	47	40,23	
	4	5	53	18,1	—	4	41	24,94	—	65	44	3,69	
	6	5	49	40,2	—	4	45	40,64	—	65	37	7,87	
	7	5	47	52,5	—	4	47	47,88	—	65	33	46,11	
	8	5	46	5,7	—	4	49	57,05	—	65	30	32,11	
	9	5	44	19,1	—	4	52	7,11	—	65	27	24,25	
10	5	42	33,5	—	4	54	17,97	—	65	24	18,16		

Observed North Polar Distance of the centre of the Planet Mars and of Stars culminating near to him, together with the Greenwich mean time at which the former passed the Meridian.

1832	NAMES.		Greenwich Mean Time.			N. P. D.			REMARKS.
			<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>°</i>	<i>'</i>	<i>"</i>	
November	9	A ¹ Tauri.....	.....	.....	.....	68	26	24,3	
		♂	7	23	31,3	69	1	44,9	
		53 Tauri.....	.....	.....	.....	69	19	41,2	
		a Tauri.....	.....	.....	.....	73	53	29,1	
	15	b Tauri.....	.....	.....	.....	69	11	34,5	
		♂	6	50	38,2	69	8	0,9	
		53 Tauri.....	.....	.....	.....	69	17	38,4	
		a Tauri.....	.....	.....	.....	73	51	24,1	
	16	b Tauri.....	.....	.....	.....	69	11	34,5	
		♂	6	45	6,7	69	9	49,1	
		a Tauri.....	.....	.....	.....	73	51	24,7	
	17	♂	6	39	4,7	69	11	41,8	
		A ¹ Tauri.....	.....	.....	.....	68	24	23,8	
	22	♂	6	11	58,3	69	22	24,2	
		b Tauri.....	.....	.....	.....	69	11	32,8	
		A ¹ Tauri.....	.....	.....	.....	68	24	21,4	
		a Tauri.....	.....	.....	.....	73	51	24,8	
	29	♂	5	34	12,1	69	38	56,2	
		a Tauri.....	.....	.....	.....	73	51	23,8	
	30	65 Arietis.....	.....	.....	.....	69	49	15,4	
		♂	5	28	53,1	69	41	17,1	

1832	NAMES.	Greenwich Mean Time.	N. P. D.	REMARKS.
		<i>h. m. s.</i>	<i>° ' "</i>	
December 4	65 Arietis.....	.....	69 52 40,8	
	♂	5 8 15,7	69 53 24,2	
	<i>a</i> Tauri.....	.....	73 54 52,1	
5	♂	5 3 13,1	69 55 24,8	
	<i>a</i> Tauri.....	.....	73 54 51,9	
6	65 Arietis.....	.....	69 52 40,9	
	♂	4 58 16,4	69 57 18,7	
	<i>F</i> ¹ Tauri.....	.....	70 55 21,5	
	<i>a</i> Tauri.....	.....	73 54 53,2	
7	65 Arietis.....	.....	69 50 44,4	
	♂	4 53 17,4	69 57 9,0	
	<i>F</i> ¹ Tauri.....	.....	70 53 26,0	
	<i>a</i> Tauri.....	.....	73 52 55,4	
12	♂	4 29 24,2	70 4 36,9	
	<i>a</i> Tauri.....	.....	73 53 8,2	
13	38 Arietis.....	.....	70 9 12,6	
	♂	4 24 47,4	70 5 41,8	
	<i>a</i> Tauri.....	.....	73 53 8,1	
15	38 Arietis.....	.....	70 10 34,1	
	♂	4 15 43,7	70 8 45,4	
	<i>a</i> Tauri.....	.....	73 54 28,9	
16	38 Arietis.....	.....	70 10 34,0	
	♂	4 10 16,8	70 9 22,1	
	<i>a</i> Tauri.....	.....	73 54 29,8	
17	♂	4 6 53,4	70 9 52,4	
	<i>a</i> Tauri.....	.....	73 54 29,3	
18	38 Arietis.....	.....	70 10 36,2	
	♂	4 2 34,9	70 10 11,7	
	<i>a</i> Tauri.....	.....	73 54 30,8	
20	♂	3 54 5,0	70 13 13,8	
	65 Arietis.....	.....	69 55 12,8	
	<i>a</i> Tauri.....	.....	73 57 22,1	
21	♂	3 49 55,4	70 13 1,1	
	65 Arietis.....	.....	69 55 12,5	
	<i>a</i> Tauri.....	.....	73 57 22,4	
22	♂	3 45 49,5	70 12 43,2	
	65 Arietis.....	.....	69 55 11,7	
	<i>a</i> Tauri.....	.....	73 57 22,2	
24	♂	3 37 47,0	70 11 34,8	
	65 Arietis.....	.....	69 55 13,3	
	<i>a</i> Tauri.....	.....	73 57 22,6	
25	♂	3 33 50,8	70 10 44,9	
	65 Arietis.....	.....	69 55 12,3	
	<i>a</i> Tauri.....	.....	73 57 24,3	

The above column *Greenwich Mean Time* is derived from the Madras Mean Time as computed from the observed Transit, by subtracting 5*h.* 21*m.* 9*s.* The column N. P. D. is copied from the Mural Circle Book without any correction whatever having been applied; in the observations it will be noticed that I have not followed the recommendation of Mr. HENDERSON, of observing the first and second limbs on alternate days, but have always bisected the centre of the Planet; my reason for thus deviating from a plan

which as far as it secures uniformity of results is a good one; arises from a conviction, that a perfect contact between the border of the Planet and edge of the wire can never be made to that degree of accuracy which a bisection of the body itself will permit; in support of this opinion I need only refer to the Solar observations made at Greenwich and at Madras, where it will be found, that the irregularity of the differences from the places given in the Nautical Almanac (the errors of observation in fact) are at least three times as large as those which are found in the observations of a fixed Star; added to which on the present occasion, were the limb of the planet observed the Star being observed with reference to the centre of the horizontal wire, and the Planet observed at the edge; we are obliged to know not only the thickness of the wire, but the semi-diameter of the Planet.

Not being possessed of any corresponding observation to the above, I am prevented from applying them to the determination of the parallax of Mars for which purpose it will be understood they have been made.

Apparent Right Ascension and North Polar Distance of JUPITER.

1832	Madras Mean Time of Observations.			Point Observed	A. R.			Point Observed.	N. P. D.			REMARKS.	
	<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>°</i>	<i>'</i>	<i>"</i>		
May	12	20	9	56,2	Centre.	23	33	18,31	Centre.	94	3	53,73	A. R. doubtful on account of the clock tripping.
	14	20	3	15,3	—	23	34	35,11	—	93	56	3,65	
	15	20	0	2,5	—	23	35	13,84	—	93	52	9,99	
	16	19	56	44,6	—	23	35	52,63	—	93	48	23,26	
	17	19	53	23,4	—	23	36	29,50	—	93	44	39,19	
	26	19	23	10,0	—	23	41	40,99	—	93	13	6,42	
	31	19	6	9,1	—	23	44	17,82	—	92	57	20,46	
June	9	18	34	57,0	—	23	48	31,73	—	92	32	38,03	
	10	18	31	26,1	—	23	48	57,16	—	92	30	10,45	
	11	18	27	54,9	—	23	49	21,92	—	92	27	44,33	
	12	18	24	23,2	—	23	49	46,29	—	92	25	26,93	
	13	18	20	51,0	1 & 2 L.	23	50	9,73	—	92	23	7,36	
	14	18	17	18,1	—	23	50	32,93	—	92	20	57,57	
	15	18	13	44,5	—	23	50	55,44	—	92	18	47,69	
	17	18	6	35,3	—	23	51	37,89	—	92	14	43,87	
September	22	11	29	38,6	—	23	36	11,54	—	94	18	33,43	
	24	11	21	0,1	—	23	35	14,73	—	94	24	43,76	
	25	11	16	34,2	—	23	34	45,20	—	94	27	49,27	
	26	11	12	10,1	—	23	34	16,79	—	94	30	49,93	
	27	11	7	46,2	—	23	33	48,74	—	94	33	49,45	
October	1	1	50	12,5	—	23	31	57,81	—	94	45	24,63	
	8	8	19	41,0	—	23	28	58,51	—	95	3	56,11	
	11	10	6	43,4	—	23	27	47,88	—	95	11	2,35	
	12	10	2	24,6	—	23	27	25,02	—	95	13	18,18	
	13	9	58	6,6	—	23	27	3,71	—	95	15	30,00	
	14	9	53	50,5	—	23	26	42,55	—	95	17	34,81	
	19	9	32	29,6	—	23	25	1,70	—	95	27	16,35	
	20	9	24	3,5	—	23	24	26,26	—	95	30	38,12	

Apparent Right Ascension and North Polar Distance of JUPITER, continued.

1832	Madras Mean Time of Observations.				Point Observed.	A. R.			Point Observed.	N. P. D.			REMARKS.
	<i>h.</i>	<i>m.</i>	<i>s.</i>			<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>°</i>	<i>'</i>	<i>"</i>	
October	22	9	19	51,2	1 & 2 L	23	24	9,64	Centre.	95	32	14,52	
	23	9	15	38,9	---	23	23	53,42	---	95	33	44,23	
	24	9	11	27,2	---	23	23	37,76	---	95	35	10,50	
	25	9	5	17,1	---	23	23	22,88	---	95	36	31,15	
	26	9	3	6,6	---	23	23	8,67	---	95	37	47,32	
	27	8	58	57,2	---	23	22	55,21	---	95	39	1,56	
	28	8	54	48,8	---	23	22	42,98	---	95	40	6,05	
	29	8	50	40,1	---	23	22	30,25	---	95	41	9,42	
	30	8	51	33,1	---	23	22	18,93	---	95	42	8,01	
	31	8	42	27,0	---	23	22	8,66	---	95	42	56,62	
November	2	8	34	15,6	---	23	21	49,18	---	95	44	30,54	
	4	8	26	8,2	---	23	21	33,43	---	95	45	44,45	
	5	8	22	4,7	---	23	21	26,00	---	95	46	11,77	
	9	8	6	1,0	---	23	21	5,95	---	95	47	21,28	
	10	8	2	1,9	---	23	21	2,57	---	95	47	26,37	
	11	7	58	2,8	---	23	20	59,05	---	95	47	22,43	
	12	7	54	5,5	---	23	20	58,18	---	95	47	17,40	
	15	7	42	17,3	---	23	20	57,57	---	95	46	35,22	
	16	7	38	22,8	---	23	20	58,76	---	95	46	10,93	
	17	7	34	28,8	---	23	21	1,00	---	95	45	39,84	
	18	7	30	35,7	---	23	21	3,76	---	95	45	5,90	
	19	7	26	43,4	---	23	21	7,36	---	95	44	26,18	
	21	7	19	1,9	---	23	21	17,04	---	95	42	52,44	
	22	7	15	10,7	---	23	21	22,59	---	95	41	57,12	
	23	7	11	21,7	---	23	21	29,41	---	95	40	59,07	
	25	7	3	45,2	---	23	21	44,63	---	95	38	46,98	
	29	6	48	43,6	---	23	22	24,56	---	95	33	26,82	
	30	6	44	57,4	---	23	22	36,47	---	95	31	57,13	
December	4	6	30	7,9	---	23	23	30,81	---	95	25	1,89	
	6	6	22	49,2	---	23	24	1,80	---	95	21	8,76	
	7	6	19	7,6	---	23	24	18,46	---	95	17	6,02	
	9	6	11	51,2	---	23	24	53,83	---	.....		
	10	6	7	14,3	---	23	25	12,69	---	.....		
	11	6	4	55,0	---	23	25	31,72	---	.....		
	12	6	1	1,5	---	23	25	52,05	---	95	7	46,55	
	13	5	57	26,5	---	23	26	12,62	---	95	5	21,39	
	15	5	50	17,6	---	23	26	56,23	---	.....		
	16	5	46	44,0	---	23	27	18,51	---	94	57	30,16	
	17	5	43	10,9	---	23	27	41,17	---	94	54	48,01	
	19	5	36	6,7	---	23	28	30,21	---	94	49	5,28	
	20	5	32	37,1	---	23	28	55,47	---	94	46	8,84	
	24	5	18	39,2	---	23	30	41,45	---	94	33	44,57	
1833													
June	29	19	24	53,9	---	1	56	31,07	---	79	21	57,78	
July	8	18	54	35,3	---	2	1	36,25	---	78	56	1,54	
	12	18	40	54,1	---	2	3	39,19	---	78	45	49,80	
	13	18	37	27,9	---	2	4	8,39	---	78	43	45,08	
October	13	12	32	49,5	---	2	1	13,44	---	79	16	34,40	
	14	12	28	23,3	---	2	0	43,38	---	79	18	14,36	
	15	12	23	57,1	---	2	0	13,11	---	79	21	57,69	
	20	12	1	44,4	---	1	57	39,19	---	79	35	44,94	
	22	11	52	51,6	---	1	56	38,07	---	79	41	17,73	
	23	11	49	25,0	---	1	56	7,13	---	79	44	4,86	

Apparent Right Ascension and North Polar Distance of JUPITER, continued.

1833	Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed.	N. P. D.			REMARKS.
	<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>°</i>	<i>'</i>	<i>"</i>	
November 9	10	33	7,1	1 & 2 L.	1	47	38,66	Centre.	80	28	56,43	
17	9	58	12,3	—	1	44	9,94	—	80	46	46,91	
19	9	49	33,5	—	1	43	23,55	—	80	50	44,95	
20	9	45	14,7	—	1	42	59,88	—	80	52	38,59	
21	9	40	57,8	—	1	42	37,39	—	80	54	29,33	
22	8	57	45,0	—	1	42	16,28	—	80	56	15,75	
23	9	42	20,9	—	1	41	55,81	—	80	58	0,16	
December 2	8	54	21,0	—	1	39	17,11	—	81	10	32,54	
4	8	46	2,0	—	1	38	49,37	—	81	12	32,33	
5	8	41	53,0	—	1	38	36,73	—	81	13	26,92	
6	8	37	45,0	—	1	38	25,00	—	81	14	16,56	
7	8	33	37,9	—	1	38	13,63	—	81	14	58,46	
8	8	29	31,3	—	1	38	2,92	—	81	15	44,94	
10	8	21	20,3	—	1	37	43,55	—	81	16	54,00	
11	8	17	17,2	—	1	37	36,20	—	81	17	19,46	
14	8	5	9,5	—	1	37	16,15	—	81	18	17,27	
18	8	48	59,8	—	1	37	0,14	—	81	18	29,20	
19	8	45	0,0	—	1	36	58,43	—	81	18	19,59	
20	7	41	8,2	—	1	36	57,17	—	81	18	7,87	
22	7	33	23,0	—	1	36	56,91	—	81	17	27,78	
24	7	25	34,3	—	1	37	0,17	—	81	16	25,27	
25	7	21	42,6	—	1	37	2,79	—	81	15	54,75	
26	7	17	48,7	—	1	37	6,33	—	81	15	11,25	
27	7	13	57,2	—	1	37	10,68	—	81	14	28,13	
29	7	6	16,8	—	1	37	22,24	—	81	12	44,07	
30	7	2	27,4	—	1	37	28,69	—	81	11	46,17	
31	6	58	38,2	—	1	37	35,57	—	81	10	43,87	

Apparent Right Ascension and North Polar Distance of SATURN.

1832	Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed.	N. P. D.			REMARKS.
	<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>°</i>	<i>'</i>	<i>"</i>	
March 11	11	35	20,2	Centre.	10	52	52,83	Centre.	80	33	27,52	
13	11	26	48,5	—	10	52	20,29	—	80	29	51,50	
14	11	22	35,2	—	10	52	3,52	—	80	31	5,77	
15	11	18	21,9	—	10	51	45,65	—	80	26	21,03	
16	11	14	8,8	—	10	51	28,43	—	80	24	39,11	
17	11	9	58,1	—	10	51	19,76	—	80	22	55,55	
19	11	1	34,4	—	10	50	37,00	—	80	18	36,33	
22	10	48	56,5	—	10	49	47,96	—	80	14	43,98	
23	10	44	45,7	—	10	49	32,35	—	80	13	10,25	
24	10	40	34,2	—	10	49	16,44	—	80	11	36,80	
25	10	36	20,1	—	10	48	58,05	—	80	13	6,04	
26	10	32	12,6	—	10	48	46,66	—	80	11	34,29	
27	10	28	0,9	—	10	48	30,49	—	80	10	7,38	
28	10	23	50,3	—	10	48	15,61	—	80	5	40,10	
29	10	19	39,6	—	10	48	1,20	—	80	7	14,92	
30	10	15	29,7	—	10	47	46,87	—	80	2	51,79	
31	10	11	19,6	—	10	47	32,65	—	80	4	30,35	
April 1	10	7	9,8	—	10	47	19,07	—	80	3	10,58	

Apparent Right Ascension and North Polar Distance of SATURN, continued.

1832	Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed.	N. P. D.			REMARKS.		
	<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>°</i>	<i>'</i>	<i>"</i>			
April	2	10	3	0,1	Centre.	10	47	5,63	Centre.	79	58	53,48		
	3	9	58	51,0	—	10	46	52,25	—	79	57	37,66		
	4	9	54	42,0	—	10	46	39,17	—	79	56	23,73		
	5	9	50	33,4	—	10	46	26,11	—	79	59	11,21		
	6	9	46	22,2	—	10	46	14,65	—	79	53	59,27		
	7	9	42	14,0	—	10	46	2,28	—	79	52	49,80		
	10	9	29	57,1	—	10	45	26,57	—	79	49	40,63		
	11	9	25	50,4	—	10	45	15,43	—	79	48	41,22		
	12	9	21	43,2	—	10	45	5,41	—	79	47	46,32		
	13	9	17	36,4	—	10	44	54,62	—	79	46	47,07		
	14	9	13	31,3	—	10	44	44,69	—	79	45	57,15		
	21	8	44	57,9	—	10	43	45,37	—	79	40	59,29		
	22	8	40	55,0	—	10	43	38,28	—	79	40	10,07		
	23	8	36	51,6	—	10	43	30,94	—	79	39	39,71		
	24	8	32	50,3	—	10	43	24,65	—	79	39	7,80		
	26	8	24	45,8	—	10	43	12,87	—	79	41	15,24		
	27	8	20	45,1	—	10	43	8,00	—	79	37	52,42		
	28	8	16	43,8	—	10	43	2,72	—	79	37	30,17		
	29	8	12	43,5	—	10	42	57,93	—	79	40	12,44		
	30	8	8	43,0	—	10	42	53,89	—	79	36	56,94		
	May	3	7	56	45,2	—	10	42	44,18	—	79	36	21,44	
		4	7	52	46,4	—	10	42	40,77	—	79	36	15,84	
		5	7	48	48,3	—	10	42	38,29	—	79	36	10,51	
		6	7	44	51,6	—	10	42	37,21	—	79	36	9,91	
		9	7	32	58,6	—	10	42	32,54	—	79	36	16,21	
		11	7	25	7,7	—	10	42	32,49	—	79	36	37,56	
		12	7	21	11,9	—	10	42	33,02	—	79	36	51,24	
		14	7	13	22,0	—	10	42	35,52	—	79	38	22,64	
		15	7	9	29,0	—	10	42	37,58	—	79	37	44,25	
		16	7	5	34,9	—	10	42	39,66	—	79	38	3,25	
17		7	1	40,9	—	10	42	41,54	—	79	38	30,48		
18		6	57	40,5	—	10	42	44,22	—	79	37	58,29		
19		6	53	59,9	—	10	42	47,63	—	79	37	38,03		
20		6	50	2,5	—	10	42	51,12	—	79	38	23,53		
21	6	46	11,0	—	10	42	55,04	—	79	38	4,08			
1833 March	13	12	20	21,0	—	11	45	0,35	—	85	41	0,10		
	14	12	16	8,2	—	11	44	43,28	—	85	39	2,11		
	15	12	11	55,5	—	11	44	25,98	—	85	37	7,20		
	16	12	6	36,9	—	11	44	8,40	—	85				
	17	11	46	13,7	—	11	43	51,23	—	85	34	16,29		
	18	11	59	15,0	—	11	43	33,92	—	85	32	22,88		
	19	11	55	1,9	—	11	43	16,12	—	85	29	27,80		
	20	11	50	49,1	—	11	42	59,21	—	85	32	34,91		
	21	11	46	36,0	—	11	42	42,67	—	85	25	42,49		
	22	11	42	22,5	—	11	42	24,82	—	85	23	49,48		
	23	11	38	10,0	—	11	42	7,79	—	85	21	58,76		
	25	11	30	4,3	—	11	41	33,83	—	85	18	28,02		
	26	11	26	1,5	—	11	41	16,84	—	85	16	29,47		
	27	11	21	19,1	—	11	41	0,03	—	85	15	2,05		
	28	11	17	6,4	—	11	40	43,43	—	85	12	55,52		
	29	11	12	53,9	—	11	40	26,87	—	85	12	19,74		
	30	11	8	41,3	—	11	40	10,33	—	85	10	24,34		

Apparent Right Ascension and North Polar Distance of SATURN, continued.

1833	Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed.	N. P. D.			REMARKS.	
	<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>°</i>	<i>'</i>	<i>"</i>		
March	31	11	4	29,3	Centre.	11	39	54,08	Centre.	85	7	42,32	
April	1	11	0	17,4	—	11	39	37,96	—	85	5	59,58	
	2	10	56	5,4	—	11	39	21,77	—	85	4	20,82	
	3	10	51	53,9	—	11	39	6,05	—	85	2	43,02	
	4	10	47	42,8	—	11	38	50,24	—	85	1	3,98	
	5	10	43	0,5	—	11	38	34,94	—	84	59	27,56	
	6	10	39	19,2	—	11	38	19,41	—	84	57	51,95	
	8	10	30	57,7	—	11	37	49,27	—	84	54	48,01	
	13	10	10	5,8	—	11	36	37,73	—	84	47	34,64	
	14	10	5	57,3	—	11	36	24,07	—	84	46	10,71	
	16	9	57	37,5	—	11	35	57,54	—	84	43	35,03	
	17	9	53	29,9	—	.....	.....	.....	—	84	42	18,90	
	18	9	49	21,8	—	11	35	31,79	—	84	41	4,37	
	19	9	45	13,9	—	11	35	19,44	—	84	39	52,45	
	20	9	41	5,1	—	11	35	7,43	—	84	38	43,25	
	21	9	36	57,3	—	11	34	56,10	—	84	37	35,95	
	22	9	32	50,6	—	11	34	44,24	—	84	36	30,84	
	23	9	28	43,4	—	11	34	33,12	—	84	35	23,50	
	24	9	24	36,7	—	11	34	22,38	—	84	34	24,27	
	25	9	20	30,1	—	11	34	11,54	—	84	33	25,11	
	26	9	16	24,4	—	11	34	1,29	—	84	32	23,30	
	27	9	12	18,5	—	11	33	51,44	—	84	31	34,79	
	30	9	0	2,6	—	11	33	23,56	—	84	29	4,42	
May	2	8	51	53,8	—	11	33	6,41	—	84	27	37,53	
	4	8	43	46,5	—	11	32	50,86	—	84	26	19,12	

Apparent Right Ascension and North Polar Distance of GEORGIAN.

1832	Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed.	N. P. D.			REMARKS.	
	<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>°</i>	<i>'</i>	<i>"</i>		
August	28	10	46	17,5	Centre.	21	13	59,93	Centre.	.....	.....	.....
September	11	9	49	21,2	—	21	12	5,52	—	106	56	35,05	
	15	9	33	9,2	—	21	11	36,96	—	106	58	35,27	
	19	9	16	58,9	—	21	11	10,92	—	107	0	30,44	
	22	9	4	52,9	—	21	10	52,09	—	107	1	49,43	
	24	8	56	49,5	—	21	10	40,55	—	107	2	37,12	
	25	8	52	47,60	—	21	10	35,00	—	107	3	58,84	
	27	8	44	45,1	—	21	10	24,67	—	107	4	42,97	
	30	8	32	45,1	—	21	10	9,64	—	107	5	41,68	
October	7	8	4	43,1	—	21	9	42,03	—	107	6	31,43	
	12	7	44	49,4	—	21	9	27,56	—	107	7	27,56	
	14	7	36	53,4	—	21	9	23,13	—	107	7	44,56	
	23	7	1	20,0	—	21	9	12,68	—	107	8	11,40	
	26	6	49	38,2	—	21	9	12,84	—	107	8	2,81	
	27	6	45	47,0	—	21	9	13,50	—	107	7	59,45	
	28	6	41	41,8	—	21	9	14,50	—	107	7	53,53	
	29	6	37	46,6	—	21	9	14,89	—	107	7	54,04	
November	3	6	18	14,7	—	21	9	22,34	—	107	7	8,15	
	5	6	10	27,1	—	21	9	26,78	—	107	6	41,98	
	9	5	54	54,8	—	21	9	28,34	—	107	6	45,54	
	10	5	51	2,0	—	21	9	41,18	—	107	5	28,52	

Apparent Right Ascension and North Polar Distance of GEORGIAN, continued.

1833	Madras Mean Time of Observations.			Point Observed.	A. R.			Point Observed.	N. P. D.			REMARKS.	
	<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>°</i>	<i>'</i>	<i>"</i>		
August	29	10	59	44,0	Centre.	21	30	27,07	Centre.	105	33	18,40	
September	10	10	11	12,0	—	21	29	6,47	—	105	39	19,19	
	11	10	7	15,7	—	21	29	6,64	—	105	39	18,15	
	13	9	59	39,4	—	21	28	22,06	—	105	43	4,55	
	15	9	50	33,1	—	21	28	7,17	—	105	44	15,11	
	17	9	42	26,7	—	21	27	52,50	—	105	45	22,28	
	18	9	38	23,9	—	21	27	45,60	—	105	45	53,94	
	20	9	29	18,1	—	21	26	31,45	—	105	46	56,33	
	21	9	26	16,4	—	21	27	24,73	—	105	47	26,87	
	30	8	50	2,2	—	21	26	31,11	—	105	51	27,09	
October	2	8	41	57,3	—	21	26	21,24	—	105	57	11,77	
	4	8	33	55,9	—	21	26	11,53	—	105	52	54,58	
	6	8	25	54,0	—	21	26	2,71	—	105	53	31,95	
	7	8	21	55,4	—	21	25	58,05	—	105	53	50,75	
	14	7	53	58,9	—	21	25	33,95	—	105	55	32,83	
	15	7	50	0,1	—	21	25	31,09	—	105	55	42,86	
	16	7	46	2,4	—	21	25	29,00	—	105	55	52,95	
	17	7	42	3,6	—	21	25	26,57	—	105	56	4,40	
	22	7	22	6,9	—	21	25	17,70	—	105	56	33,83	
	25	7	10	23,5	—	21	25	14,55	—	105	56	42,10	

Apparent Right Ascension and North Polar Distance of PALLAS.

1832	Madras Mean Time of Observations.			A. R. from Observation.			A. R. from Tables		Error of Tables.	N. P. D. from Observation.			N. P. D. from Tables.		Error of Tables.
	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>'</i>	<i>"</i>	<i>"</i>
Sept.	24	11	27	39,3	23	41	55,03	41	53,59	—	1,44	95	59	12,82	58 30,9 — 41,9
	25	11	22	58,5	23	41	10,03	41	8,34	—	1,69	96	13	23,18	12 46,4 — 36,8
Oct.	1	10	54	58,7	23	36	44,78	36	43,60	—	1,18	97	37	2,49	36 24,9 — 37,6

Apparent Right Ascension and North Polar Distance of CERES.

1832	Madras Mean Time of Observations.			A. R. from Observation.			A. R. from Tables.		Error of Tables.	N. P. D. from Observation.			N. P. D. from Tables.		Error of Tables.
	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>'</i>	<i>"</i>	<i>"</i>
Oct.	23	12	38	8,6	2	46	56,33	46	56,75	+	0,42	85	40	57,96	40 59,1 + 1,1
	24	12	33	20,5	2	46	4,14	46	4,63	+	0,49	85	43	22,87	43 24,2 + 1,3
	25	12	26	32,8	2	45	11,56	45	11,93	+	0,37	85	45	42,61	45 46,5 + 3,9
	26	12	23	43,2	2	44	18,26	44	18,77	+	0,51	85	48	0,05	48 2,9 + 2,9
	27	12	19	33,8	2	43	24,68	43	25,09	+	0,41	85	50	14,13	50 15,9 + 1,8
	29	12	13	13,1	2	41	36,06	41	36,57	+	0,51	85	54	25,12	54 28,2 + 3,1
	30	12	4	23,1	2	40	41,24	40	41,86	+	0,62	85	56	22,07	56 27,0 + 4,9
	31	11	59	32,6	2	39	46,26	39	46,93	+	0,67	85	58	15,91	58 20,5 + 4,6
Nov.	1	11	54	42,9	2	38	51,43	38	51,78	+	0,35	86	0	4,15	0 8,8 + 4,7
	2	11	49	50,4	2	37	56,16	37	56,54	+	0,38	86	1	46,09	1 51,5 + 5,4
	3	11	44	59,9	2	37	0,78	37	1,26	+	0,48	86	3	24,61	3 28,1 + 3,5

Apparent Right Ascension and North Polar Distance of CERES, continued.

1832	Madras Mean Time of Observations.				A. R. from Observation.			A. R. from Tables.		Error of Tables.		N. P. D. from Observation.			N. P. D. from Tables.		Error of Tables.	
	<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>m.</i>	<i>s.</i>		<i>s.</i>	°	<i>'</i>	<i>"</i>	<i>'</i>	<i>"</i>		<i>"</i>
Nov.	4	11	40	8,8	2	36	5,51	36	5 99	+	0,48	86	4	55,89	4	58,7	+	2,8
	5	11	35	17 5	2	35	10,31	35	10 82	+	0,51	86	6	19,18	6	22 9	+	4,7
	12	11	0	28,9	2	28	50,76	28	51,26	+	0,50	86	12	55,68	13	1,3	+	5,6

Apparent Right Ascension and North Polar Distance of JUNO.

1833	Madras Mean Time of Observations			A. R. from Observation.			A. R. from Tables.		Error of Tables.	N. P. D. from Observation.			N. P. D. from Tables.		Error of Tables.
	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>'</i>	<i>"</i>	<i>"</i>
April	27	12	57		15	20	19	59,74	.....	92	47	19,53	48	17,4	— 2,1
	28	12	53	10,5	15	19	16,68	19	13,73	—	2,95	92	42	27,03	42 26,7 — 0,3
	29	12	48	28,1	15	18	29,99	18	27,29	—	2,70	92	36	39,82	36 40,4 + 0,6
May	2	12	34	18,7	15	16	9,87	16	6,17	—	3,70	92	19	52,96	19 49,3 — 3,7
	8	12	5	56,4	15	11	20,33	11	17,24	—	3,09	.....	.....	.....	.....
	9	12	1	12,1	15	10	31,45	10	28,68	—	2,77	.....	.....	.....	.....
	10	11	56	27,6	15	9	43,39	9	40,14	—	3,25	92	39	4,85	38 57,8 — 7,0
	11	11	51	42,9	15	8	54,28	8	51,65	—	2,63	92	34	27,85	34 20,6 — 7,2
	12	11	46	59,8	15	8	6,82	8	3,26	—	3,56	.....	.....	.....	.....
	13	11	42	15,8	15	7	18,38	7	15,03	—	3,35	.....	.....	.....	.....

In consequence of the extreme faintness of JUNO; in making the above observations it was found necessary to exclude all the light from the field, and even then, it was seen with the greatest difficulty; from this circumstance the transits which in general could only be observed at one or two wires are less accurate than the observations of the other Planets.

Apparent Right Ascension and North Polar Distance of VESTA.

1833	Madras Mean Time of Observations.			A. R. from Observation.			A. R. from Tables.		Error of Tables.	N. P. D. from Observation.			N. P. D. from Tables.		Error of Tables.
	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>'</i>	<i>"</i>	<i>"</i>
July	7	11	58		19		0	36,97	.....	113	0	59,64	0	25,0	.....
	8	11	53	42,3	18	59	34,28	59	36,39	+	2,11	.....	.....	.....	.....

The prevalence of clouds and rain prevented further observation of VESTA.

The places with which the observations of the above four Planets are compared are interpolated from the Supplements to the Nautical Almanac which are deduced from the Berliner Astronomisches Jahrbuch for 1833,

page 109": not having a copy of this work or indeed any tables of the Planetary Motions, has prevented my offering a similar comparison of the places of the larger Planets.

In the next place we come to the observations of the Moon, before giving which, it will be proper to state the elements which have been employed in the reduction of the observation ; they are as follows.

Ratio of Polar and Equatoreal Axes.....	299	:	300
From which we find the <i>Angle of the Vertical</i>	5'		0"
And the radius of the Earth.....	,999825		
Semi-diameter.....	} Computed from the		
Parallax.....			
	} Nautical Almanac.		

In addition to the above it is necessary I should here state, that the column *mean time* which now follows, is for the instant of the first limb, centre, or second limb, transiting the meridian as the case may be ; at which instant, the Right Ascension of the Moon's *centre* (computed from the observation) is given, and compared with the interpolated place from the Nautical Almanac : Now the observed N.P.D. being necessarily due to the moment of the Moon's *centre* being on the meridian, will correspond to a mean time greater or less than the above according to the circumstance of the first or second limb having been observed ; to obviate the inconvenience which would thus result, I have applied to the reduced North Polar Distance the change of declination due to the interval occupied by the Moon's semi-diameter to pass the Meridian, or in other words the Declination here given is reduced to correspond with the mean time at which the Transit was observed.

Comparison of the observed Right Ascension and North Polar Distance of the Moon with the interpolated place from Nautical Almanac.

1832	Madras Mean Time.			Limb Observed.	Observed A. R. of D's Centre.			A.R. from Nautical Almanac.		Error of Tables.		Limb Observed.	Observed N. P. D. of D's Centre.			N.P.D. from Nautical Almanac.		Error of Tables.			
	"	'	"		"	'	"	"	"	"	"		"	'	"	"	"	"			
Jan.	13	8	9	54.88	1	54	51	5,4	51	9,7	+	4,3	S.	14	16	36,0	N.	16	28,1	—	7,9
	14	9	7	43,36	1	70	19	44,6	19	47,3	+	2,7	S.	17	33	49,2	N.	33	46,3	—	2,9
	15	10	8	52,03	1	86	38	58,0	38	57,2	—	0,8	S.	19	39	53,6	N.	39	1,4	+	7,8
	17	12	17	27,85	1	120	16	23,4	16	18,9	—	4,5	S.	19	14	9,2	N.	14	9,3	+	0,1
	25	19	0	41,99	2	229	17	7,5	17	5,3	—	2,2	N.	12	47	5,3	S.	46	49,5	—	15,8
Feb.	9	6	2	23.08	1	49	29	11,4	29	1,9	—	9,5	S.	12	49	55,9	N.	50	1,5	+	5,6
	10	6	56	35.32	1	64	4	3,6	4	0,9	—	2,7	S.	16	21	22,7	N.	21	26,2	+	3,5
	11	7	53	58,74	1	79	26	50,9	26	48,2	—	2,7	S.	18	53	26,2	N.	53	34,9	+	8,7

1832	Madras Mean Time.	Limb Observed.	Observed A. R. of D's Centre.	A.R. from Nauti- cal Al- manac.	Error of Tables.	Limb Observed.	Observed N. P. D. of D's Centre.	N.P.D. from Nauti- cal Al- manac.	Error of Tables.
Feb.	12 8 54 1,91	1	95 28 50,9	28 51,8	+ 0,9	N.	20 9 22,1 N.	9 23,1	+ 1,0
	13 9 55 15,85	1	111 49 43,7	49 41,5	- 2,2	N.	19 55 53,1 N.	55 59,1	+ 6,0
	14 10 56 3,82	1	128 2 34,7	2 40,8	+ 6,1	N.	18 4 6,4 N.	14 2,5	+ 3,9
	15 11 54 44,54	1	143 43 59,9	43 53,4	- 6,5	N.	15 13 55,5 N.	13 57,5	+ 2,0
	21 16 54 19,95	2	224 13 46,0	13 40,1	- 5,9	S.	11 21 12,0 S.	21 23,6	+ 11,6
	23 18 26 24,47	2	249 16 11 3	16 5,9	- 5,4	....	.....	.....	.....
March	11 7 44 35,02	1	150 40 46,2	40 39,0	- 7,2	N.	20 17 1,3 N.	17 0,0	- 1,3
	12 8 43 37,68	1	121 27 44,3	27 45,1	+ 0,8	N.	19 11 21,3 N.	11 10,5	- 10,8
	13 9 41 17,42	1	136 54 54,4	54 42,1	- 12,3	N.	16 44 39,5 N.	44 40,3	+ 0,8
	14 10 36 52,21	1	151 48 42,8	48 27,7	- 15,1	N.	13 13 26,4 N.	13 29,3	+ 2,9
	15 11 29 45,20	1	166 3 55,1	3 42,6	- 12,3	N.	8 55 27,4 N.	55 35,9	+ 8,5
	16 12 21 24,53	2	179 43 48,4	43 39,9	- 8,5	N.	4 10 36,0 N.	10 58,1	.....
	17 13 11 12,20	2	192 55 14,3	55 7,8	- 6,5	S.	0 41 28,4 S.	41 26,6	- 1,8
	18 13 58 34,22	2	205 46 52 6	46 48,3	- 4 3	S.	5 23 37,0 S.	23 27,7	- 9,3
	20 15 31 51,40	2	231 8 25,1	8 9,4	- 15,7	S.	13 28 4,5 S.	28 4,2	- 0,3
	21 16 18 40,95	2	243 51 40,6	51 36,2	- 4,4	S.	16 30 44,0 S.	30 43,9	- 0,1
	22 17 5 57,93	2	256 41 54,8	41 45,6	- 9,2	S.	18 44 6,7 S.	44 9,4	+ 2,7
	23 17 53 42,89	2	269 39 16,8	39 1,0	- 15,8	N.	20 3 26 3 S.	3 29,1	+ 2,8
April	8 6 38 13,39	1	116 38 8,4	37 53,8	- 14,6	N.	19 51 51,7 N.	51 52,3	+ 0,6
	9 7 35 21,48	1	131 56 34,9	56 22,6	- 12,3	N.	17 51 2,4 N.	51 1,1	- 1,3
	10 8 30 14,36	1	146 40 54,5	40 52,5	- 2,0	N.	14 42 37,5 N.	42 39,5	+ 2,0
	11 9 22 35,91	1	160 47 17,6	47 23,2	+ 5,6	N.	10 43 27,0 N.	43 13,7	- 13,3
	12 10 12 44,04	1	174 19 31,0	19 27,3	- 3,7	N.	6 10 49,0 N.	10 34,2	- 14,8
	13 11 1 1,90	1	187 24 54,8	24 49,7	- 5,1	N.	1 22 13,6 N.	22 14,1	+ 0,5
	14 11 48 11,76	1	200 13 9,3	13 5,8	- 3,5	N.	3 25 30,3 S.	25 26,3	- 4,0
	15 12 36 56,17	2	212 54 50,5	54 40,0	- 10,5	N.	7 58 9,5 S.	58 14,5	+ 5,0
	17 14 10 36,68	2	238 21 23,5	21 16,9	- 6,6	S.	15 28 17,3 S.	28 16,5	- 0,8
	18 14 58 6,34	2	251 15 20,2	15 11,1	- 9,1	N.	18 6 26,4 N.	6 30,8	+ 4,4
	21 17 22 35,64	....	.....	.....	.....	N.	20 26 15,7 N.	26 19,5	+ 3,8
May	6 5 31 15,92	1	127 26 57,1	26 42,0	- 15,1	N.	18 50 3,9 N.	49 57,3	+ 6,6
	8 7 19 59,49	1	156 39 49,6	39 51,0	+ 1,4	N.	12 12 31,4 N.	12 30,4	- 1,0
	9 8 10 1,81	1	170 11 18,6	11 11,1	+ 7,4	N.	7 49 22,0 N.	49 25,6	+ 3,6
	11 9 44 27,20	1	195 48 7,9	48 8,3	+ 0,4	N.	1 40 12,1 S.	40 10,9	- 1,2
	12 10 30 19,38	1	208 16 58,4	16 54,6	- 3,8	N.	6 18 18,3 S.	18 27,3	+ 9,0
	13 11 16 8,06	1	220 46 14,8	46 7,8	- 7,0	N.	10 34 22,7 S.	34 31,5	+ 8,8
	14 12 4 43,90	2	233 24 12,5	24 12,8	+ 0,3	N.	14 17 45,6 S.	17 49,7	+ 4,1
June	6 6 56 40,80	1	179 23 27,8	23 23,6	- 4,2	N.	4 44 18,6 N.	44 22,2	+ 3,6
	7 7 43 22,86	1	192 4 52,9	4 41,7	- 11,2	N.	0 4 7,4 S.	4 4,4	- 3,0
	9 9 14 8,88	1	216 48 10,2	47 58,5	- 11,7	N.	9 9 29,0 S.	9 30,7	+ 1,7
	10 9 59 38,65	1	229 12 46,9	12 34,4	- 12,5	N.	13 4 3,6 S.	4 14,4	+ 10,8
	12 11 33 15,34	1	254 39 15,0	39 11,9	- 3,1	N.	18 49 5,6 S.	49 4,6	- 1,0
Sept.	4 7 46 34,61	1	280 36 37,7	36 34,6	- 3,1	N.	21 3 35,0 S.	2 38,7	+ 3,7
	5 8 34 52,01	1	293 42 3,5	41 58,9	- 4,6	S.	20 40 59,1 S.	40 56,5	- 2,6
Oct.	2 6 28 23,29	1	288 36 34,2	26 26,5	- 7,7	S.	21 8 56,7 S.	8 53,1	- 3,6
	3 7 16 28,68	1	301 38 51,0	38 41,9	- 9,1	S.	20 8 54,0 S.	8 56,4	+ 2,4
	4 8 3 45,03	1	314 28 55,3	28 50,3	- 5,0	S.	18 11 54,1 S.	11 57,8	+ 3,7
	5 8 50 7,70	1	327 5 32,0	5 36,2	+ 4,2	S.	15 23 16,1 S.	23 20,4	+ 4,3
	8 11 6 7,05	1	4 8 22,8	8 24,1	+ 1,3	N.	3 2 53,7 S.	2 56,8	+ 3,1
	9 11 53 2,61	1	16 37 53,7	37 57,2	+ 3,5	S.	1 49 10,0 N.	49 0,3	- 9,7
	30 5 9 10,25	1	296 20 50,3	20 47,3	- 3,0	S.	20 56 36,3 S.	56 38,9	+ 2,6
	31 5 56 48,32	1	309 16 19,1	16 8,0	- 11,1	S.	19 22 17,1 S.	22 18,7	+ 1,6
Nov.	1 6 43 17,08	1	321 54 26,4	54 18,3	- 8,1	S.	16 54 5,0 S.	54 10,5	+ 5,5
	2 7 28 45,14	1	334 17 32,9	17 17,1	- 15,8	S.	13 38 49,6 S.	38 54,8	+ 5,2
	3 8 13 34,75	1	346 30 36,1	30 31,6	- 4,5	S.	9 43 34,7 S.	43 40,6	+ 5,9
	4 8 58 17,87	1	358 42 20,1	42 20,4	+ 0,3	S.	5 16 35,9 S.	16 40,9	+ 5,0

1832	Madras Mean Time.	Limb Observed.	Observed A. R. of D's Centre.	A.R. from Nauti- cal Al- manac.	Error of Tables.	Limb Observed.	Observed N. P. D. of D's Centre.	N.P.D. from Nauti- cal Al- manac.	Error of Tables.
	h m s		° ' "	° ' "	"		° ' "	° ' "	"
Nov.	5 9 43 36,42	1	11 3 9,9	3 16,7	+ 6,8	S.	0 27 37,2 S.	27 42,8	+ 5,6
	15 18 55 3,76	1	158 37 12,1	37 26,6	+ 14,5	S.	12 26 49,2 N.	27 1,8	+ 12,6
	29 5 22 33,19	1	329 15 15,9	15 13,4	- 2,5	S.	15 19 19,3 S.	19 9,7	- 9,6
	30 6 6 54,87	1	341 22 7,4	21 54,5	- 12,9	S.	11 42 20,6 S.	42 21,1	+ 0,5
Dec.	3 8 19 46,89	1	17 37 39,0	37 36,5	- 2,5	....	.....	57 43 3	.....
	4 9 6 44,74	1	30 24 2,7	24 3,7	+ 1,0	S.	6 54 52,6 N.	54 55,5	+ 2,9
	5 9 56 50,67	1	43 54 45,6	54 50,3	+ 4,7	N.	11 40 46,3 N.	40 37,9	- 8,4
	6 10 50 20,19	1	58 20 48,8	20 50,5	+ 1,7	S.	15 55 24,2 N.	55 24,2	0,0
	7 11 49 1,58	1	73 46 33,9	46 25,7	- 8,2	S.	19 15 23,6 N.	15 14,5	- 9,1
1833									
Jan.	4 10 27 12,12	1	81 9 16,5	9 15,9	- 0,6	N.	20 20 47,4 N.	20 56,8	+ 9,4
	5 11 29 34,33	1	97 46 50,5	46 53,5	+ 3,0	S.	21 42 31,8 N.	42 26,4	- 5,4
	13 18 52 56,4	2	216 15 8,5	14 56,9	- 11,6	S.	8 55 39,3 S.	55 39,0	- 0,3
	29 6 23 36,52	1	44 42 11,9	42 8,9	- 3,0	S.	11 50 58,9 N.	50 59,4	+ 0,5
	30 7 14 5,89	1	58 21 20,0	21 21,4	+ 1,4	S.	15 52 6,2 N.	51 50,8	- 15,4
	31 8 8 45,45	1	73 2 59,5	3 6,2	+ 6,7	S.	19 6 17,3 N.	6 18,7	+ 1,4
Feb.	1 9 7 36,91	1	88 48 6,3	48 11,3	+ 5,0	N.	21 11 23,6 N.	11 24,0	+ 0,4
	4 12 17 6,65	1	138 58 12,0	58 16,4	+ 4,4	N.	17 56 40,9 N.	56 30,8	- 10,1
	27 5 59 10,97	1	67 10 34,3	10 28,4	- 5,9	S.	18 6 25,5 N.	6 24,8	- 0,7
	28 6 54 14,87	1	81 58 18,1	58 14,9	- 3,2	S.	20 36 15,5 N.	36 20,4	+ 4,9
March	1 7 52 42,65	1	97 37 20,3	37 22,7	+ 2,4	S.	21 49 56,7 N.	49 55,1	- 1,6
	2 8 53 30,94	1	113 51 13,1	51 20,1	+ 7,0	N.	21 32 32,4 N.	32 31,1	- 1,3
	3 9 54 57,03	1	130 14 21,5	14 24,9	+ 3,4	N.	19 38 20,1 N.	38 23,9	+ 3,8
	4 10 55 17,01	1	146 20 41,2	20 39,9	- 1,3	N.	16 14 31,2 N.	14 28,0	- 3,2
	6 12 51 2,65	2	176 46 8,0	46 7,5	- 0,5	N.	6 18 7,9 N.	18 10,4	+ 2,5
	28 5 44 54,82	1	92 11 32,8	11 29,4	- 3,4	N.	21 48 42,9 N.	48 44,3	+ 1,4
	29 6 43 14,27	1	107 48 8,9	48 9,3	+ 0,4	N.	22 3 43,1 N.	3 40,6	- 2,5
	30 7 42 26,33	1	123 37 42,8	37 56,3	+ 13,5	N.	20 48 4,4 N.	47 58,8	- 5,6
	31 8 41 6,70	1	139 19 25,4	19 19,2	- 6,2	....	.....	.....	.....
April	1 9 38 13,60	1	154 37 3,9	37 6,2	+ 2,3	N.	14 3 22,1 N.	3 22,8	+ 0,7
	2 10 33 19,51	1	169 24 41,0	24 43,4	+ 2,4	N.	9 5 28,1 N.	5 24,4	- 3,7
	3 11 26 33,89	1	183 44 21,5	44 20,4	- 1,1	N.	3 33 51,5 N.	33 55,4	+ 3,9
	4 12 20 41,84	2	197 44 52,0	44 48,9	- 3,1	N.	2 7 39,8 S.	7 36,2	- 3,6
	27 6 34 49,44	1	134 16 17,0	16 24,0	+ 7,1	N.	19 21 10,2 N.	21 12,9	+ 2,7
	28 7 30 56,95	1	149 19 22,3	19 26,5	+ 4,2	N.	15 48 47,8 N.	48 47,4	- 0,4
	29 8 24 57,95	1	163 50 41,4	50 41,8	+ 0,4	N.	11 15 35,0 N.	15 32,9	- 2,1
	30 9 17 4,84	1	177 53 25,4	53 17,9	- 7,5	N.	6 1 20,0 N.	1 15,6	- 4,4
May	1 10 7 52,39	1	191 36 21,0	36 9,9	- 11,1	N.	0 27 8,3 N.	27 14,7	+ 6,4
	2 10 58 4,52	1	205 10 33,9	10 24,5	- 9,4	N.	5 5 46,8 S.	5 41,1	- 5,7
	3 11 49 32,23	Cent	218 47 6,0	47 9,8	+ 3,8	N.	.....	.....	.....
June	28 9 16 19,28	1	235 51 3,0	50 51,4	- 11,6	N.	15 43 37,5 S.	43 39,0	+ 1,5
	29 10 6 36,03	1	249 26 34,4	26 30,3	- 4,1	N.	19 4 55,0 S.	4 57,2	+ 2,1
	30 10 57 52,14	1	263 16 45,9	16 45,2	- 0,7	S.	21 22 50,2 S.	22 50,3	+ 0,1
July	1 11 50 39,59	Cent	277 13 40,0	13 34,0	- 6,0	N.	22 30 39,8 S.	30 41,7	+ 1,9
	25 7 13 57,05	1	231 47 23,7	47 12,6	- 11,1	N.	14 32 13,5 S.	32 13,6	+ 0,1
	29 10 35 58,35	1	286 22 27,0	22 17,9	- 9,1	S.	22 35 51,5 S.	35 50,3	- 1,2
Aug.	29 11 44 53,02	1	333 51 4,0	50 55,5	- 8,5	N.	14 47 19,5 S.	47 5,6	- 13,9
Sept.	21 6 28 5,02	1	277 27 33,5	27 27,5	- 6,0	S.	22 49 37,2 S.	49 38,9	+ 1,7
	26 10 25 13,62	1	341 48 52,6	48 50,3	- 2,3	S.	12 15 4,2 S.	15 3,5	- 0,7
Oct.	20 6 2 49,43	1	299 42 27,9	42 20,9	- 7,0	S.	22 16 52,4 S.	16 57,4	+ 5,0
	21 6 51 35,79	1	312 54 51,6	54 44,6	- 7,0	S.	20 19 40,4 S.	19 41,2	+ 0,8
	22 7 38 1,62	1	325 31 57,9	32 0,8	+ 2,9	S.	17 27 31,9 S.	27 35,2	+ 3,3
	23 8 22 22,50	1	337 37 54,5	37 51,4	- 3,1	S.	13 51 3,5 S.	51 13,4	+ 9,9

1833		Madras Mean Time.			Limb Observed.	Observed A. R. of D's Centre.			A.R. from Nautical Almanac.		Error of Tables.	Limb Observed.	Observed N. P. D. of D's Centre.			N.P.D. from Nautical Almanac.	Error of Tables.				
		h	m	s		°	'	"	°	'	"		°	'	"	°	'	"			
Oct.	25	9	46	55,71	1	0	47	37,2	47	40,3	+	3,1	S.	5	4	14,1	S.	4	13,3	—	0,8
Nov.	18	5	32	2,87	1	320	34	22,5	34	9,9	—	12,6	S.	.....			.....	.....	.....	.....	.....
	19	6	17	31,84	1	332	57	11,8	57	4,4	—	7,4	S.	15	34	3,3	S.	34	15,1	+	11,8
	20	7	0	53,70	1	344	48	18,3	48	7,4	—	10,9	S.	11	34	17,8	S.	34	20,3	+	2,5
	21	7	42	51,08	1	356	18	9,4	18	0,0	—	9,4	S.	7	6	22,1	S.	6	27,5	+	5,4
	22	8	24	12,04	1	7	39	28,0	39	21,8	—	6,2	S.	2	19	38,9	S.	19	41,7	+	2,8
Dec.	18	5	37	47,70	1	351	34	1,9	34	2,3	+	0,4	S.	9	7	42,5	S.	7	41,4	—	1,1
	19	6	19	4,74	1	2	54	3,7	53	52,9	—	10,8	S.	4	28	41,9	S.	28	39,4	—	2,9
	20	7	0	4,98	1	14	2	42,5	2	53,3	+	10,8	S.	0	22	42,3	N.	22	49,2	+	6,9
	22	8	25	20,77	1	37	31	26,6	31	15,8	—	10,8	S.	10	6	3,8	N.	6	15,6	+	11,8
	23	9	11	39,65	1	50	7	6,2	7	3,6	—	2,6	S.	14	35	12,0	N.	35	17,8	+	5,8
	24	10	1	30,91	1	63	36	51,6	36	54,1	+	2,5	S.	18	28	43,5	N.	28	46,5	+	3,0
	25	10	55	25,29	1	78	6	31,5	6	36,7	+	5,2	N.	21	27	12,2	N.	27	9,9	—	2,3
	26	11	54	3,13	1	93	31	26,0	31	26,7	+	0,7	N.	23	10	8,0	N.	10	4,6	—	3,4
	27	12	56	6,54	1	109	31	17,2	31	15,6	—	1,6	S.	23	21	1,0	N.	20	56,6	—	4,4

Observation of the Eclipse of the Moon on the 1st July 1833.

	Shelton's Clock.			Madras Mean Time.			Observed by
	h.	m.	s.	h.	m.	s.	
Beginning of the Eclipse.....	23	3	55	16	25	59,8	
The Shadow covers Mare Humorum.....	23	8	36	16	30	40,1	A.
The Shadow touches Grimaldus.....	23	8	44	16	30	48,1	T.
The Shadow covers Grimaldus.....	23	13	28	16	35	31,3	T.
The Shadow touches Tycho.....	23	13	33	16	35	36,3	A.
The Shadow covers Tycho.....	23	14	55	16	36	58,1	T.
The Shadow touches Tycho.....	23	17	5	16	39	7,7	A.
The Shadow covers Tycho.....	23	17	10	16	39	12,7	T.
The Shadow covers Tycho.....	23	18	25	16	40	27,5	A.
The Shadow covers Tycho.....	23	18	29	16	40	31,5	T.
The Shadow covers Galileus.....	23	22	40	16	44	41,8	T.
The Shadow touches Keplerus.....	23	22	45	16	44	46,8	A.
The Shadow covers Keplerus.....	23	27	15	16	49	16,1	A.
The Shadow touches Copernicus.....	23	29	55	16	51	55,7	A.
The Shadow covers Copernicus.....	23	36	8	16	58	7,6	A.
The Shadow touches Copernicus.....	23	36	28	16	58	27,5	T.
The Shadow covers Copernicus.....	23	38	10	17	0	9,3	A.
The Shadow covers Aristarchus—somewhat uncertain.....	23	38	12	17	0	11,3	T.
	23	43	40	17	5	38,4	T.

Trees prevented further observation.

The Earth's Shadow was not well defined, and the observations altogether were in consequence unsatisfactory particularly towards the latter observations.

The observations marked T were made by myself with Dollond's 5 feet Achromatic with the lowest power (60); those marked A, were made by my Head Assistant with Dolland's 42 Inch Achromatic power 75; a lower power was much wanted for this nature of observation.

Observation of the Eclipse of the Moon on the 27th December 1833.

	Shelton's Clock.			Madras Mean Time.			Observed by
	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>h.</i>	<i>m.</i>	<i>s.</i>	
Beginning of the Eclipse the Shadow was not well defined.	7	23	50	13	0	11,9	T.
The Shadow covers Aristarchus.....	7	33	28	13	9	48,4	—
The Shadow covers Copernicus.....	7	45	28	13	21	46,4	—
The Shadow touches Plato.....	7	49	23	13	25	40,8	—
The Shadow covers Aristoteles.....	7	58	10	13	34	26,3	—
The Shadow covers Eudoxus.....	7	58	15	13	34	31,3	—
The Shadow touches Tycho.....	7	58	44	13	35	0,2	—
The Shadow covers Tycho.....	7	59	22	13	35	38,1	—
The Shadow covers Plinius.....	8	4	45	13	41	0,2	—
The Shadow covers Meshalæ.....	8	12	2	13	48	16,0	—
The Shadow covers Proclus.....	8	14	35	13	50	48,6	—
The Shadow covers Mare Cristium.....	8	19	34	13	55	46,8	—
The Shadow covers the Moon.....	8	24	28	14	0	40,0	—
End of Total Darkness.....	10	2	55	15	38	51,0	—
The Shadow covers Grimaldus.....	10	5	50	15	41	45,5	—
The Shadow leaves Grimaldus.....	10	6	45	15	42	40,4	—
The Shadow leaves Galileus.....	10	10	14	15	46	8,8	—
The Shadow leaves Aristarchus.....	10	14	16	15	50	10,1	—
The Shadow covers Tycho.....	10	28	13	16	4	4,8	—
The Shadow leaves Tycho.....	10	29	10	16	5	1,8	—
The Shadow leaves Manilius.....	10	41	0	16	16	49,9	—
The Shadow covers Mare Cristium.....	10	58	20	16	34	7,1	—
The Shadow leaves Mare Cristium.....	11	0	0	16	35	46,8	—
End of the Eclipse.....	11	2	50	16	38	36,3	—

The above observations were made by myself with Dollond's 5 feet Achromatic power 60; the air was beautifully clear, and with the exception of the beginning, I have never seen the Earth's Shadow better defined; the observations though few in numbers in consequence of the rapid deposition of dew (which obliged me to stop every five minutes to wipe the object Glass), are nevertheless to be depended upon.

Eclipses of Jupiter's Satellites observed in the years 1832 and 1833.

1832

h. m. s. h. m. s.

Sept. 26—Emersion of Jupiter's first Satellite with

5 feet Achromatic power 160 at.....20 2 45 or 7 40 26,1 M. T.

Do. with 46 Inches Achromatic power 75 at..20 2 55 or 7 40 36,1 M. T.

Air very clear, and good observation.

Oct. 3—Emersion of Jupiter's first Satellite with

5 feet Achromatic power 130 at.....22 26 18 or 9 35 31,5 M. T.

Do. with 46 Inches Achromatic power 75 at..22 26 18 or 9 35 31,5 M. T.

A little haze, but observation satisfactory.

9—Emersion of Jupiter's second Satellite

with 46 Inches Achromatic power 75 at....23 30 50 or 10 15 35,8 M. T.

Observation satisfactory.

Nov. 2—Emersion of Jupiter's first Satellite with

5 feet Achromatic power 120 at..... 2 35 35 or 11 46 41,2 M. T.

Moon light clear, observation good.

3—Emersion of Jupiter's second Satellite

with 5 feet Achromatic power 130 at.... ..22 11 30 or 7 19 23,3 M. T.

Do. with 46 Inches Achromatic power 75 at..22 12 10 or 7 20 3,2 M. T.

Moon light very clear, observation satisfactory.

11—Emersion of Jupiter's first Satellite with

46 Inches Achromatic power 75 at.....23 35 37 or 8 11 34,6 M. T.

Do. with 5 feet Achromatic power 130 at....23 35 42 or 8 11 39,6 M. T.

Observation good.

17—Immersion of Jupiter's third Satellite

with 46 Inches Achromatic power 75 at ... 0 15 50 or 8 28 32,0 M. T.

17—Emersion of Jupiter's third Satellite

with 46 Inches Achromatic power 75 at.... 3 12 30 or 11 24 43,6 M. T.

Dec. 4—Emersion of Jupiter's first Satellite with

46 Inches Achromatic power 75 at..... 1 22 45 or 8 29 39,5 M. T.

5—Emersion of Jupiter's second Satellite

with 46 Inches Achromatic power 75 at....23 57 30 or 7 0 46,7 M. T.

1833

Jan. 12—Emersion of Jupiter's first Satellite with

5 feet Achromatic power 130 at..... 2 30 49 or 7 6 58,3 M. T.

Do. with 46 Inches Achromatic power 75 at.. 2 30 55 or 7 7 4,3 M. T.

13—Emersion of Jupiter's second Satellite

with 5 feet Achromatic power 60 at..... 4 47 10 or 9 19 4,6 M. T.

Planet low, clear, observation good.

19—Emersion of Jupiter's first Satellite with

5 feet Achromatic power 110 at..... 4 58 15 or 9 2 34,4 M. T.

h. m. s. h. m. s.

- Feb. 27—Emersion of Jupiter's first Satellite with
46 Inches Achromatic power 75, at..... 6 7 8 or 7 37 14,7 M. T.
4° Above the horizon, observation doubtful.
- June 11—Immersion of Jupiter's first Satellite
with 5 feet Achromatic power 130, at.....20 57 46 or 15 37 1,2 M. T.
Moon light, clear, observation satisfactory.
- 27—Emersion of Jupiter's third Satellite
with 5 feet Achromatic power 130, at.....22 22 25 or 16 0 5,7 M. T.
Clear, observation good.
- July 4—Immersion of Jupiter's first Satellite
with 46 Inches Achromatic power 75, at....22 31 48 or 15 45 18,8 M. T.
Thin haze, observation satisfactory.
- 20—Immersion of Jupiter's second Satellite
with 46 Inches of Achromatic power 75, at.. 0 3 20 or 16 11 8,2 M. T.
- 27—Immersion of Jupiter's first Satellite
with 46 Inches Achromatic power 75, at.... 0 15 45 or 15 56 4,1 M. T.
Observation satisfactory.
- Aug. 5—Immersion of Jupiter's first Satellite
with 46 Inches Achromatic power 75, at....21 12 26 or 12 17 57,9 M. T.
- 9—Immersion of Jupiter's third Satellite
with 46 Inches Achromatic power 75, at....22 53 25 or 13 41 23,8 M. T.
Thin haze, observation satisfactory.
- 14—Immersion of Jupiter's second Satellite
with 5 feet Achromatic power 110, at.....22 54 34 or 13 23 4,5 M. T.
Clear, observation good.
- 14—Emersion of Jupiter's second Satellite
with 5 feet Achromatic power 110, at..... 1 20 29 or 15 48 34,7 M. T.
- Sept. 11—Immersion of Jupiter's first Satellite
with 5 feet Achromatic power 110, at..... 3 35 35 or 16 14 22,7 M. T.
Observation fair.
- 14—Emersion of Jupiter's third Satellite
with 46 Inches Achromatic power 75, at....21 15 45 or 9 43 51,4 M. T.
Do. with 5 feet Achromatic power 110, at....21 15 50 or 9 43 56,4 M. T.
- 14—Emersion of Jupiter's third Satellite
with 5 feet Achromatic power 110, at.....23 34 35 or 12 2 18,9 M. T.
- 21—Immersion of Jupiter's third Satellite
with 5 feet Achromatic power 110, at..... 1 45 55 or 13 45 55,0 M. T.
By reason of haze, this observation can
only be considered one of second rate
accuracy.
- Oct. 6—Immersion of Jupiter's first Satellite
with 5 feet Achromatic power 110, at.....23 53 36 or 10 55 16,8 M. T.

h. m. s. h. m. s.

- Oct. 13—Immersion of Jupiter's first Satellite
with 5 feet Achromatic power 180, at..... 2 15 59 or 19 49 51,8 M. T.
Very good observation.
- 15—Immersion of Jupiter's first Satellite
with 46 Inches Achromatic power 75, at....20 51 38 or 7 18 34,3 M. T.
Do. with 5 feet Achromatic power 180, at... 20 51 40 or 7 18 36,3 M. T.
- 20—The first appearance of the Emersion of
Jupiter's third Satellite was from be-
hind the body of the Planet at.....22 8 15 or 8 15 13,5 M. T.
As seen through the 5 feet Achroma-
tic with a power 150.
It appeared in contact with the body of
Jupiter at.....22 16 20 or 8 23 12,3 M. T.
- 31—Emersion of Jupiter's first Satellite with
5 feet Achromatic power 110, at.....22 21 20 or 7 44 43,2 M. T.
Do. with 46 Inches Achromatic power 75 at..22 21 40 or 7 45 3,1 M. T.
Clear, observation good.
- Nov. 23—Emersion of Jupiter's first Satellite with
5 feet Achromatic power 110, at..... 0 8 58 or 7 59 15,7 M. T.
Do. with 46 Inches Achromatic power 75 at.. 0 9 19 or 7 59 36,6 M. T.
- Dec. 2—Emersion of Jupiter's third Satellite
with 42 Inches Achromatic power 75, at.... 0 56 33 or 8 11 31,1 M. T.
Clear, observation satisfactory.
- 6—Emersion of Jupiter's second Satellite
with 5 feet Achromatic power 180, at..... 2 31 10 or 9 30 14,6 M. T.
- 9—Immersion of Jupiter's third Satellite
with 42 Inches Achromatic power 75, at.... 3 16 35 or 10 3 56,8 M. T.
- 9—Emersion of Jupiter's third Satellite
with 5 feet Achromatic power 110, at..... 5 27 12 or 12 14 2,6 M. T.

Not being possessed of any Greenwich or Cambridge Observations corresponding to these we will now compare them with the times given in the Nautical Almanac, from which we determine.

The Longitude of the Madras Observatory.

1832	Im. or Em.	I Satellite.	Im. or Em.	II Satellite.	Im. or Em.	III Satellite.	REMARKS.
		<i>h. m. s.</i>		<i>h. m. s.</i>		<i>h. m. s.</i>	
September 26	E.	5 21 11,1	..	.....	..	.....
October 3	E.	5 20 55,5	..	.....	..	.....
9	..	.....	E.	5 21 10,8	..	.....
November 2	E.	5 20 57,2	..	.....	..	.....
3	..	.....	E.	5 20 51,3	..	.....

The Longitude of the Madras Observatory, continued.

1832	Im. or Em.	I Satellite.	Im. or Em.	II Satellite.	Im. or Em.	III Satellite.	REMARKS.
		<i>h. m. s.</i>		<i>h. m. s.</i>		<i>h. m. s.</i>	
November 11	E.	5 20 57,1	..	.....	..	.....
17	..	.....	..	.....	I.	5 23 3,0	
17	..	.....	..	.....	E.	5 21 7,6	
December 4	E.	5 21 59,5	..	.....	..	.....
5	..	.....	E.	5 21 18,7	..	.....
1833							
January 12	E.	5 21 31,3	..	.....	..	.....
13	..	.....	E.	5 22 11,6	..	.....
19	E.	5 21 15,4	..	.....	..	.....
27	E.	5 20 36,7	..	.....	..	.....
June 11	I.	5 21 24,2	..	.....	..	.....
27	..	.....	..	.....	E.	5 20 58,7	
July 4	I.	5 20 0,0	..	.....	..	.....
20	..	.....	I.	5 21 36,2	..	.....
27	I.	5 21 21,1	..	.....	..	.....
August 5	I.	5 21 10,9	..	.....	..	.....
9	..	.....	..	.....	I.	5 24 34,8	
14	..	.....	I.	5 21 57,5	..	.....
14	..	.....	E.	5 21 58,7	..	.....
September 11	I.	5 19 58,7	..	.....	..	.....
14	..	.....	..	.....	I.	5 22 42,9	
14	..	.....	..	.....	E.	5 22 50,9	
21	..	.....	..	.....	I.	5 23 42,0	
October 6	I.	5 20 59,8	..	.....	..	.....
13	I.	5 21 3,8	..	.....	..	.....
15	I.	5 21 6,3	..	.....	..	.....
31	E.	5 20 56,2	..	.....	..	.....
November 23	E.	5 20 50,2	..	.....	..	.....
December 2	..	.....	..	.....	E.	5 20 53,1	
6	..	.....	E.	5 21 19,6	..	.....
9	..	.....	..	.....	I.	5 22 16,8	
9	..	.....	..	.....	E.	5 21 11,6	
Mean.....	..	5 21 0,8	..	5 21 33,0	..	5 22 20,1	

Taking the Mean of the first and second Satellites whose places are much more accurately observed and computed than those of the third Satellite we obtain :

The Longitude of the Madras Observatory.

5h. 21m. 7,7s. East of Greenwich.



Occultations of the Planet SATURN and of Stars, in the years 1832 and 1833.

1832

April 11—Immersion of Saturn behind the Moon's Dark Limb observed with 42 Inches Achromatic power 75.

The first edge of the ring was lost.

Centre of the Body in contact with Moon's Dark Limb at 12h. 4m. 17,0s. by Shelton's Clock or 10h. 41m. 36,7s. Madras Mean Time.

The Second edge of the Limb at 12h. 4m. 39,5s. by Shelton's Clock or 10h. 41m. 59,1s. Madras Mean Time.

Sept. 27—Immersion of a Star behind the Moon's Dark Limb with 42 Inches Achromatic power 75, at 19h. 8m. 22,5s. by Shelton's Clock or 6h. 42m. 20,4. Madras Mean Time.

Clear, observation good.

Nov. 3—Immersion of ψ Aquarii behind the Moon's Dark Limb with 42 Inches Achromatic power 75, at 23h. 10m. 31,0s. by Shelton's Clock or 8h. 18m. 14,6s. Madras Mean Time.

Observation certain to a second.

29—Immersion of β Arietis behind the Moon's Dark Limb with 42 Inches Achromatic power 75, at 2h. 18m. 53,0s. by Shelton's Clock or 9h. 44m. 45,7s. Madras Mean Time.

Clear, observation good.

Dec. 25—Immersion of θ Capricorni behind the Moon's Dark Limb with 42 Inches Achromatic power 75, at 0h. 47m. 28,5s. by Shelton's Clock or 6h. 33m. 30,6. Madras Mean Time.

Observation satisfactory.

27—Immersion of γ Aquarii behind the Moon's Dark Limb with 5 feet Achromatic power 110, at 2h. 8m. 54,5s. by Skelton's Clock or 7h. 47m. 1,0s. Madras Mean Time.

I fancied the Star slightly projected upon the Moon's Disc at Immersion but my Assistant with the 42 Inches Achromatic did not so see it.

Do. —With 42 Inches Achromatic power 75, at 2h. 8m. 54,0s. by Shelton's Clock or 7h. 47m. 1,5s. Madras Mean Time.

1833

March 24—Immersion of μ Ceti behind the Moon's Dark Limb with 5 feet Achromatic power 110, at 7h. 37m. 34,0s. by Shelton's Clock or 7h. 28m. 36,4s. Madras Mean Time.

25—Immersion of a small Star behind the Moon's Dark Limb with 5 feet Achromatic power 110, at 8h. 2m. 55,5s. by Shelton's Clock or 7h. 49m. 57,7s. Madras Mean Time.

Clear, observation good.

26—Immersion of a small Star behind the Moon's Dark Limb with 5 feet Achromatic power 110, at 7h. 9m. 33,0s. by Shelton's Clock or 6h. 52m. 47,1s. Madras Mean Time.

1833

March 26—Immersion of ϵ Tauri behind the Moon's Dark Limb with 5 feet Achromatic power 110, at 7h. 10m. 38,5s. by Shelton's Clock or 6h. 53m. 52,4s. Madras Mean Time.

Clear, observation good.

Emmersion of ϵ Tauri from behind the Moon's Bright Limb with 5 feet Achromatic power 110, at 7h. 46m. 20,0s. by Shelton's Clock or 7h. 29m. 28,1s. Madras Mean Time.

Immersion of a Star in Taurus behind the Moon's Dark Limb with 5 feet Achromatic power 110, at 7h. 53m. 49,5s. by Shelton's Clock or 7h. 36m. 56,4s. Madras Mean Time.

Observed Transits of the MOON and of Stars, culminating near thereto, in the years 1832 and 1833.

1832	NAMES.	Observed Transit.			1832	NAMES.	Observed Transit.		
		<i>h.</i>	<i>m.</i>	<i>s.</i>			<i>h.</i>	<i>m.</i>	<i>s.</i>
Jan. 13	D 1 Limb.....	3	42	12,09	Sept. 5	D 1 Limb.....	19	31	43,97
	48 Tauri.....	4	10	10,03		σ Capricorni.....	20	7	43,06
	15 D 1 Limb.....	5	49	24,13		π Capricorni.....	20	15	43,48
	ν Geminorum.....	6	1	58,23	Oct. 3	57 Sagittarii.....	19	43	45,10
Feb. 11	D 1 Limb.....	5	18	0,70		D 1 Limb.....	20	6	50,04
	χ^3 Orionis.....	5	54	19,42		ν Capricorni.....	20	31	48,79
	12 D 1 Limb.....	6	21	9,84		4 ν Capricorni.....	20	32	1,20
	ζ Geminorum.....	6	54	33,60		D 1 Limb.....	20	58	24,09
	23 ϕ Ophiuchi.....	16	22	28,11		δ Capricorni.....	21	39	19,14
	D 2 Limb.....	16	39	3,31		8 P Piscium.....	23	52	9,37
March 13	α^1 Cancri.....	8	49	31,20		S Piscium.....	23	58	49,16
	D 1 Limb.....	9	8	10,03		D 1 Limb.....	0	17	34,42
	ν Leonis.....	9	50	49,63		26 Ceti.....	0	57	15,80
	14 ν Leonis.....	9	50	52,15		9 26 Ceti.....	0	57	20,04
	D 1 Limb.....	10	7	48,83		D 1 Limb.....	1	7	34,00
April 13	D 1 Limb.....	12	27	40,59		D 2 Limb.....	1	9	42,22
	k^4 Virginis.....	12	54	20,36		ν Piscium.....	1	34	51,31
	14 k^4 Virginis.....	12	54	22,48		30 D 1 Limb.....	19	45	7,18
	D 1 Limb.....	13	18	56,61		σ Capricorni.....	20	10	30,01
	88 Virginis.....	13	38	38,55		ν Capricorni.....	20	31	17,22
	15 88 Virginis.....	13	38	14,85		31 σ Capricorni.....	20	10	30,56
	κ Virginis.....	14	2	40,20		ν Capricorni.....	20	31	17,59
	D 2 Limb.....	14	11	23,42		D 1 Limb.....	20	36	49,92
June 9	94 Virginis.....	13	55	58,87		ι Capricorni.....	21	13	42,22
	D 1 Limb.....	14	24	41,27	Nov. 1	ι Capricorni.....	21	13	42,39
	ξ^2 Libræ.....	14	46	14,28		D 1 Limb.....	21	27	23,30
	12 S Ophiuchi.....	16	50	25,14		ι Aquarii.....	21	58	11,03
	D 1 Limb.....	16	55	55,69		D Aquarii.....	22	10	49,01
	52 Ophiuchi.....	17	23	35,71		2 ι Aquarii.....	21	58	11,61
Sept. 4	21 Sagittarii.....	18	13	20,36		D Aquarii.....	22	10	49,64
	D 1 Limb.....	18	39	21,07		D 1 Limb.....	22	16	56,43
	138 Sagittarii.....	19	18	55,81		70 Aquarii.....	22	40	29,74
	5 138 Sagittarii.....	19	18	56,79		3 70 Aquarii.....	22	40	30,72

1832	NAMES.	Observed Transit.			1833	NAMES.	Observed Transit.		
		<i>h.</i>	<i>m.</i>	<i>s.</i>			<i>h.</i>	<i>m.</i>	<i>s.</i>
Nov.	3 D 1 Limb.....	23	5	50,38	May	2 l ³ Virgins.....	13	28	53,59
	r Piscium.....	23	54	12,21		D 1 Limb.....	13	41	39,84
	4 190 Aquarii.....	23	40	54,04		2 Libræ.....	14	16	30,34
	D 1 Limb.....	23	54	45,47		3 κ Virgins.....	14	5	59,95
	5 D 1 Limb.....	0	44	16,75		2 Libræ.....	14	16	27,30
	f Piscium.....	1	10	17,21		D 1 Limb.....	14	37	7,11
	v Piscium.....	1	33	50,88		D 2 Limb.....			
	15 α Leonis.....	10	0	10,53	June	28 γ Libræ.....	15	25	20,65
	ρ Leonis.....	10	24	42,61		γ Libræ.....	15	33	50,32
	D 2 Limb.....	10	36	18,26		D 1 Limb.....	15	41	27,17
	29 δ Capricorni.....	21	37	33,60		χ Ophiuchi.....	16	16	30,42
	D 1 Limb.....	21	55	46,63		29 χ Ophiuchi.....	16	16	27,00
	70 Aquarii.....	22	39	27,82		D 1 Limb.....	16	35	45,24
	30 σ Aquarii.....	22	21	28,72		ρ Ophiuchi.....	17	10	5,84
	70 Aquarii.....	22	39	23,14		D Ophiuchi.....	17	27	31,37
	D 1 Limb.....	22	44	9,44		30 D 1 Limb.....	17	31	2,03
Dec.	3 26 Ceti.....	0	54	41,00		μ ¹ Sagittarii.....	18	2	48,51
	D 1 Limb.....	1	8	56,38	July	1 D 1 Limb.....	18	27	50,40
	v Ceti.....	1	32	12,23		o Sagittarii.....	18	53	38,05
	4 v Piscium.....	1	32	8,03		π Sagittarii.....	18	58	47,35
	225 Ceti.....	1	50	37,10		29 ν ¹ Sagittarii.....	18	42	20,22
	D 1 Limb.....	1	59	56,12		f Sagittarii.....	18	52	55,45
	μ Ceti.....	2	35	18,50		D 1 Limb.....	19	2	37,91
	5 μ Ceti.....	2	35	13,90		f Sagittarii.....	19	34	51,83
	D 1 Limb.....	2	53	52,30	Aug.	29 δ Cancri.....	21	36	59,69
	6 D 1 Limb.....	3	51	29,80		μ Cancri.....	21	43	21,76
	179 Tauri.....	4	35	46,04		D 1 Limb.....	22	14	32,37
	7 i Tauri.....	4	40	46,09		D 2 Limb.....			
	D 1 Limb.....	4	54	15,52		I Aquarii.....	22	33	24,52
	D 2 Limb.....				Sept.	21 D 1 Limb.....	18	26	52,70
1833						26 Sagittarii.....	18	29	50,28
Jan.	13 D 2 Limb.....	14	22	34,92		61 Sagittarii.....	19	8	47,26
	a ² Libræ.....	14	38	9,95		σ Aquarii.....	22	19	51,48
Feb.	4 q Cancri.....	9	10	10,65	Oct.	D 1 Limb.....	22	44	16,21
	D 2 Limb.....	9	17	37,74		f Sagittarii.....	19	34	26,84
March	2 p Geminorum.....	7	19	6,57		D 1 Limb.....	19	55	33,51
	D 1 Limb.....	7	35	31,33		20 Capricorni.....	20	47	56,51
	29 D 1 Limb.....	7	11	50,45		21 D 1 Limb.....	20	48	25,51
	l Geminorum.....	7	47	42,14		γ Capricorni.....	21	28	41,51
	31 q Cancri.....	9	11	27,85		δ Capricorni.....	21	35	40,75
	D 1 Limb.....	9	17	56,32		22 γ Capricorni.....	21	28	43,06
April	1 37 Leonis.....	10	9	32,10		δ Capricorni.....	21	35	42,16
	D 1 Limb.....	10	19	9,54		D 1 Limb.....	21	38	57,68
	4 θ Virginis.....	13	3	11,66		f Aquarii.....	22	19	14,27
	D 2 Limb.....	13	13	56,45		23 f Aquarii.....	22	19	14,76
	28 D 1 Limb.....	9	58	25,45		D 1 Limb.....	22	27	23,52
	ρ Leonis.....	10	26	16,56		h ¹ Aquarii.....	22	54	22,05
	l Leonis.....	10	42	44,27		χ ³ Aquarii.....	23	8	11,22
	29 ρ Leonis.....	10	26	13,75	Nov.	19 x Aquarii.....	21	53	49,40
	l Leonis.....	10	42	41,42		D 1 Limb.....	22	11	17,57
	D 1 Limb.....	10	56	28,90		20 70 Aquarii.....	22	40	12,71
	v Virginis.....	11	39	29,54		K Aquarii.....	22	45	10,70
May	1 γ ¹ Virginis.....	12	35	18,56		D 1 Limb.....	22	58	40,90
	D 1 Limb.....	12	47	26,24		21 190 Aquarii.....	23	40	26,05
	l ³ Virginis.....	13	28	56,92		D 1 Limb.....	23	44	39,07
						60 Ceti.....	0	16	26,57
						n Ceti.....	0	21	59,73

RESULT OF OBSERVATIONS IN 1832 AND 1833.

111

1833	NAMES.	Observed Transit.			1833	NAMES.	Observed Transit.		
		<i>h.</i>	<i>m.</i>	<i>s.</i>			<i>h.</i>	<i>m.</i>	<i>s.</i>
Nov. 22	60. Ceti.....	0	16	25,01	Dec. 22	4 Ceti.....	3	1	54,86
	<i>n</i> Ceti.....	0	21	58,17		<i>f</i> Ceti.....	3	21	22,39
	<i>D</i> 1 Limb.....	0	30	3,09	23	4 Ceti.....	3	1	52,14
Dec. 18	<i>D</i> 1 Limb.....	23	25	7,09		<i>D</i> 1 Limb.....	3	29	1,83
	<i>P</i> Piscium.....	23	49	59,57	24	<i>D</i> 1 Limb.....	4	12	56,52
	<i>S</i> Piscium.....	23	56	39,19		<i>i</i> Tauri.....	4	52	45,36
19	<i>P</i> Piscium.....	23	49	56,80		<i>l</i> Tauri.....	4	57	33,86
	<i>S</i> Piscium.....	23	56	36,76	25	<i>i</i> Tauri.....	4	52	43,09
	<i>D</i> 1 Limb.....	0	10	24,54		<i>l</i> Tauri.....	4	57	31,44
	<i>m</i> Ceti.....	0	44	18,48		<i>D</i> 1 Limb.....	5	10	50,35
20	<i>m</i> Ceti.....	0	44	16,25		<i>Q</i> ² Tauri.....	5	51	12,42
	<i>D</i> 1 Limb.....	0	55	25,99	26	<i>Q</i> ² Tauri.....	5	51	10,17
	<i>μ</i> Piscium.....	1	21	14,21		<i>η</i> Geminorum.....	6	4	21,17
	<i>ν</i> Piscium.....	1	32	32,93		<i>D</i> 1 Limb.....	6	13	35,36
22	<i>D</i> 1 Limb.....	2	28	43,38		<i>D</i> 2 Limb.....			

Selecting from the above those of which corresponding observations have been made at the Greenwich Royal Observatory, we have :

1832	NAMES.	Madras Observations			<i>t</i>	Greenwich Observations			<i>τ</i>	<i>t</i> — <i>τ</i>
		<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>h.</i>	<i>m.</i>	<i>s.</i>		
March 13	<i>o</i> ¹ Cancri.....	8	49	31,20	.....	8	48	35,76	.....	.....
	<i>D</i> 1 Limb....	9	8	10,03	— 18 38,83	9	20	44,54	— 32 8,68	+ 13 29,85
	<i>ν</i> Leonis.....	9	50	49,63	+ 42 39,60	9	49	54,97	+ 29 10,43	+ 13 29,17
April 13	<i>D</i> 1 Limb....	12	27	40,59	.....	12	40	50,26	.....	.....
	<i>k</i> ⁴ Virginis...	12	54	20,35	+ 26 39,76	12	56	0 38	+ 15 10,12	+ 11 29,66
14	<i>D</i> 1 Limb....	13	18	56,61	.....	13	31	53,76	.....	.....
	88 Virginis...	13	38	38,55	+ 19 41,94	13	40	15,96	+ 8 22,20	+ 11 19,74
Oct. 8	<i>p</i> Piscium....	23	52	9,47	— 25 24,95	23	50	31,24	— 36 27,76	+ 11 2,81
	<i>S</i> Piscium....	23	58	49,23	— 18 45,19	23	56	11,18	— 30 47,82	+ 11 2,63
	<i>D</i> 1 Limb....	0	17	34,42	.....	0	26	59,00	.....	.....
	26 Ceti.....	0	57	15,65	+ 39 41,23	0	55	37,54	+ 28 38,54	+ 11 2,69
Nov. 4	190 Aquarii...	23	40	54,10	— 13 51,37	23	40	2,90	— 24 47,02	+ 10 55,65
	<i>D</i> 1 Limb....	23	54	45,47	.....	0	4	49,92	.....	.....
29	<i>D</i> 1 Limb....	21	55	46,63	.....	22	7	38,10	.....	.....
	70 Aquarii....	22	39	27,96	+ 43 41,33	22	40	26,90	+ 32 48,80	+ 10 52,53

Similarly, for those of which corresponding observations were made at the Observatory at Cambridge, we have :

1832	NAMES.	Madras Observations			<i>t</i>	Cambridge Observations			<i>τ</i>	<i>t</i> — <i>τ</i>
		<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>h.</i>	<i>m.</i>	<i>s.</i>		
March 13	<i>D</i> 1 Limb....	9	8	10,03	.....	9	19	40,20	.....	.....
	<i>ν</i> Leonis.....	9	50	49,63	+ 42 39,60	9	48	51,25	+ 29 11,05	+ 13 28,55
Sept. 4	<i>D</i> 1 Limb....	18	39	21,07	.....	18	48	50,34	.....	.....

1832		NAMES.	Madras Observations			t	Cambridge Observations			τ	$t - \tau$	
			<i>h. m. s.</i>		<i>m. s.</i>		<i>h. m. s.</i>		<i>m. s.</i>		<i>m. s.</i>	
Sept.	4	138 Virginis...	19 18 55,78	+	39 34,71		19 16 43,87	+	27 53,53	+	11 41,18	
	5	138 Virginis...	19 18 56,79	—	12 47,18		19 16 40,91	—	24 22,91	+	11 35,73	
		δ 1 Limb....	19 31 43,97				19 41 3,82					
		π Capricorni...	20 15 43,45	+	43 59,48		20 13 27,46	+	32 23,64	+	11 35,84	
Oct.	8	p Piscium....	23 52 9,47	—	25 24,95		23 49 12,66	—	36 26,94	+	11 1,89	
		s Piscium....	23 58 49,23	—	18 45,19		23 55 52,54	—	29 46,96	+	11 1,77	
		δ 1 Limb....	0 17 34,42				0 25 39,50					
Nov.	1	δ 1 Limb....	21 27 23,30				21 36 34,29					
		ι Aquarii....	21 58 11,03	+	30 47,73		21 56 15,82	+	19 41,53	+	11 6,20	
	4	190 Aquarii...	23 40 54,10	—	13 51,37		23 38 39,55	—	24 46,06	+	10 54,69	
		δ 1 Limb....	23 54 45,47				0 3 25,61					
1833												
Feb.	4	γ Cancræ....	9 10 10,65	—	7 27,09		9 9 23,32	—	21 58,12	+	14 31,03	
		δ 2 Limb....	9 17 37,74				9 31 21,44					
April	1	37 Leonis....	10 9 32,10	—	9 37,44		10 6 53,06	—	22 58,53	+	13 21,09	
		δ 1 Limb....	10 19 9,54				10 29 51,59					
	28	δ 1 Limb....	9 58 25,45				10 7 28,38					
		ρ Leonis....	10 26 16,58	+	27 51,13		10 22 12,53	+	14 44,15	+	13 6,98	
May	3	χ Virginis...	14 5 59,89	—	30 0,09		14 4 1,02	—	42 10,40	+	12 10,31	
				—	32 14,35			—	44 25,16	+	12 10,81	
		δ 2 Libræ....	14 16 27,26	—	19 32,72		14 14 28,33	—	31 43,09	+	12 10,37	
				—	21 46,98			—	33 57,85	+	12 10,87	
		δ 1 Limb....	14 35 59,98				14 46 11,42					
		δ 2 Limb....	14 38 14,24				14 48 26,18					
June	29	δ 1 Limb....	16 35 45,24				16 47 46,49					
		δ Ophiuchi...	17 32 31,47	+	56 46,23		17 32 17,83	+	44 31,34	+	12 14,89	
July	1	δ 1 Limb....	18 26 42,62				18 38 55,90					
		σ Sagittarii...	18 53 38,14	+	26 55,52		18 53 27,70	+	14 31,80	+	12 23,72	
		π Sagittarii...	18 58 47,46	+	32 4,84		18 58 37,20	+	19 41,30	+	12 23,54	
Sept.	26	σ Aquarii....	22 19 51,46	—	24 24,75		22 21 1,31	—	34 50,87	+	10 26,12	
		δ 1 Limb....	22 44 16,21				22 55 52,18					
Oct.	20	f Sagittarii...	19 34 26,86	—	21 6,65		19 35 52,13	—	33 4,28	+	11 57,63	
		δ 1 Limb....	19 55 33,51				20 8 56,41					
	23	f Aquarii....	22 19 14,77	—	8 8,75		22 20 28,23	—	18 40,61	+	10 31,91	
		δ 1 Limb....	22 27 23,52				22 39 8,89					
		h^1 Aquarii....	22 54 22,03	+	26 58,51		22 55 35,54	+	16 26,65	+	10 31,86	
		ψ^3 Aquarii....	23 8 11,18	+	40 47,66		23 9 24,60	+	30 15,71	+	10 31,95	

The above observations at Greenwich and Cambridge are extracted from the Monthly reports of the proceedings of the Royal Astronomical Society; but my copy of these not being complete; it is possible that a greater number of corresponding observations may have been made than are now given. In computing the Longitude I have in either case assumed $x = 5h. 21m.$ in preference to computing the horary motion for the middle of the times of passage, and for the other elements of the computation have employed the Nautical Almanac; the values of the Longitude thus deduced are as follows:

1832	Longitude from Greenwich Observations.			Longitude from Cambridge Observations.			REMARKS.			
	D 1 L.		D 2 L.	D 1 L.		D 2 L.				
	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>h.</i>	<i>m.</i>	<i>s.</i>	
March 13	5	20	52,47	.....	5	20	27,59	.....	
April 13	5	20	53,97	.....	.....	.....	.....	.....
14	5	21	4,05	.....	.....	.....	.....	.....
September 4	.....	.....	.....	.....	5	20	48,62	.....	
5	.....	.....	.....	.....	5	20	20,51	.....	
October 8	5	20	54,37	.....	5	20	28,69	.....	
November 1	.....	.....	.....	.....	5	20	23,01	.....	
4	5	20	52,30	.....	5	20	24,27	.....	
29	5	20	46,60	.....	.....	.....	.....	.....
1833										
February 4	.....	.....	.....	.....	.....	.....	5	20	33,19	
April 4	.....	.....	.....	.....	5	20	34,31	.....	
28	.....	.....	.....	.....	5	20	50,80	.....	
May 3	.....	.....	.....	.....	5	20	26,25	5	20	34,01
June 29	.....	.....	.....	.....	5	20	31,14	.....	
July 1	.....	.....	.....	.....	5	20	46,05	.....	
September 26	.....	.....	.....	.....	5	20	22,47	.....	
20	.....	.....	.....	.....	5	20	20,32	.....	
October 23	.....	.....	.....	.....	5	20	23,84	.....	
Mean.....	5	20	55,94	.....	5	20	30,56	5	20	33,60

The observations of 1831, shew that a correction of about 12 seconds ought to be applied to the Longitude determined from the Observations of the Moon's first limb at Greenwich when compared with the Madras Observations; not having any corresponding observations at Greenwich of the Moon's second limb in 1832 and 1833, it will perhaps be the safer plan to allow these observations to remain as they are until further observations upon the Moon's second limb have been made; the Cambridge Observations offer two results of the longitude from the second limb, which taking the mean and allowing the longitude of Cambridge to be 23,54s. East of Greenwich, we obtain for the longitude of Madras 5h. 20m. 55,62s. a result which is probably from 5 to 10 seconds in defect.

Observation of the Transit of MERCURY, May 5, 1832, observed with Dollond's five feet Achromatic, power 110.

	Mean Time.		
	<i>h.</i>	<i>m.</i>	<i>s.</i>
The Exterior contact at ingress was lost.			
Centre of Planet (by estimation) in contact with the Sun's limb.....	2	22	21,5
Interior contact at ingress.....	2	23	37,3
High wind which agitated the telescope prevented further observation.			

SUPPLEMENTARY OBSERVATIONS AND REMARKS.

Hitherto, in the reduction of the Madras Observations I have employed for the aberration, nutation, &c. the tables by Baily, published in the II Volume of the Royal Astronomical Society's Memoirs; the great care which was taken in the computation of these tables, and the superior judgment and skill of the Superintendant renders it unnecessary for me here to offer any explanation as to why I have given to them the preference; in the reduction of the observations of 1831, being obliged to compute the values A, B, C, D, I assumed for the value of the maximum of aberration 20,50s.* instead of 20,36s. which had been recommended by Mr. Baily; but in the reductions for 1832 and 1833, these numbers having been furnished in the Supplements to the Nautical Almanac computed for the latter co-efficient, I have considered the difference too unimportant to render a recomputation necessary. For the refraction, I have employed those very excellent tables by Mr. Henry Atkinson published in the III Volume of the Astronomical Society's Memoirs; independent of the elegance and originality which marks this memoir through every step of the investigation, the actual comparison of observations at low altitudes *below* the Pole at Greenwich, with those *above* the Pole, has given to these tables a preference to those of Ivory, Young, Brinkley, Bradley and Groombridge, with which they have been compared; as this comparison however does not extend to altitudes below 10° , it will at least be *interesting*, if not *useful* to fill up the blank; for this purpose we will select from the Greenwich Catalogue those Stars which are situated at 120° of N. P. D. or $8\frac{1}{2}^{\circ}$ altitude, and downwards to the horizon; for at these altitudes the uncertainty of refraction amounts to several seconds, whereas at the altitudes which Stars thus situated attain to at Madras (from 47° to 39°), the uncertainty is comparatively very unimportant.

The Greenwich Catalogues which I am so fortunate as to possess, are; a Catalogue of 720 Stars observed (I believe) in 1827-29 and reduced to 1830; and the Catalogue published in Part 5, of the observations for 1831; these being reduced to January 1, 1832, and arranged in order of N. P. D. are as follows.

* Deduced from the Greenwich Observations by Mr. W. Richardson.

NAMES.	A. R.	Greenwich N. P. D. for 1832 from Observations.		Concluded N. P. D. Jan. 1, 1832	Bradley's Refraction Bar. 29.6 Ther. 50°.	Presumed Apparent N. P. D.
		In 1828.	In 1831.			
ζ Sagittarii....	18 51	No. 12	6 37,70	No. 2	6 40,18	120 6 38,05
α Ault. Piscium	10 19	14	12 50,50	.....	.....	120 12 50,50
α App. Sculp...	0 50	.....	.....	14	15 58,79	120 15 58,79
γ ² Sagittarii....	17 55	.....	.....	2	24 57,80	120 24 57,80
α Piscis. Aust..	22 48	96	30 36,20	18	30 36,87	120 30 36,31
ν ² Eridani....	4 29	6	54 43,20	4	54 42,98	120 54 43,20
ξ Hyd. & Crat.	11 24	14	55 41,50	2	55 40,89	120 55 41,41
h Centauri....	13 43	.....	.....	10	5 37,29	121 5 37,29
θ Piscis. Aust..	21 37	.....	.....	2	40 13,64	121 40 13,64
k Centauri....	13 42	6	9 24,70	1	9 23,66	122 9 24,55
* Centauri....	13 36	.....	.....	13	11 26,21	122 11 26,21
κ ² Canis Maj..	6 43	14	19 11,50	.....	.....	122 19 11,50
μ Columbae....	5 40	.....	.....	2	22 36,21	122 22 36,21
D Canis Maj..	6 22	.....	.....	10	28 47,14	122 28 47,14
α Pixed Naut..	8 36	18	35 7,60	.....	.....	122 35 7,60
4 Piscis. Aust..	21 7	.....	.....	2	52 10,76	122 52 10,76
β Hydæ.....	11 44	10	58 28,10	.....	.....	122 58 28,10
χ Lupi.....	15 40	6	6 28,50	2	6 30,77	123 6 29,07
β Piscis. Aust..	22 22	14	12 17,30	2	12 21,05	123 12 17,77
λ Canis Maj..	6 16	10	21 28,50	.....	.....	123 21 28,50
γ Centauri....	13 40	.....	.....	8	36 33,29	123 36 33,29
γ Piscis. Aust..	22 43	.....	.....	6	45 52,75	123 45 52,75
ι Piscis. Aust..	21 35	14	47 17,30	.....	.....	123 47 17,30
k Scorpii.....	16 54	.....	.....	6	52 42,00	123 52 42,00
e Scorpii.....	16 39	10	58 49,70	.....	.....	123 58 49,70
α Columbae....	5 33	8	10 14,40	6	.....	124 10 14,40
* Canis Maj..	6 45	.....	.....	.....	10 31,59	124 10 31,59
41 Eridani....	4 11	4	12 54,90	.....	.....	124 12 54,90
α Normæ.....	16 20	.....	.....	10	19 52,84	124 19 52,84
α Microscopii..	20 39	6	23 49,30	2	*24 3,33	124 23 49,30
43 Eridani....	4 17	4	24 48,40	.....	.....	124 24 48,40
e Sagittarii....	18 12	9	27 22,10	.....	.....	124 27 22,10
β Pixed Naut..	8 33	.....	.....	2	43 21,05	124 43 21,05
κ Columbae....	6 10	8	5 31,40	4	5 35,84	125 5 32,88
γ Columbae....	5 51	3	18 31,90	2	+18 46,50	125 18 31,90
θ Centauri....	13 56	8	32 31,50	.....	.....	125 32 31,50

* This being only a single observation at each Instrument, I have rejected it and assumed the result of 1828.

† I have rejected this result as erroneous in consequence of the coincidence of the results of 1828, with the R. A. Society's Catalogue, for comparing it with κ Columbae we have :

R. A. S. Catalogue 1830.	Greenwich Observations of 1828 reduced to 1830.	Greenwich Observations of 1831 reduced to 1830.
125 5 20,20	125 5 31,40	125 5 35,84
125 18 23,30	125 18 31,90	125 18 46,50
Difference..13 3,10	13 0,50	13 10,66

NAMES.	A. R.	Greenwich N. P. D. for 1832 from Observations.				Concluded N. P. D. Jan. 1, 1832.	Bradley's Refraction Bar. 29,6 Ther. 50°.	Presumed Apparent N. P. D.								
		In 1828.		In 1831.												
		^h	^m	No.	^h	^m	No.	^o	[']	["]	^o	[']	["]	^o	[']	["]
ϵ Columbæ....	5 25	5	36	10,60	2	36	9,75	125	36	10,36	—	14	4,50	125	22	5,86
ι Centauri....	13 11	11	49	35,60	....	....	....	125	49	35,60	—	14	46,40	125	34	49,20
β Columbæ....	5 45	2	50	24,40	4	50	29,21	125	50	27,61	—	14	49,20	125	35	38,41
ϕ^a Lupi.....	15 12	....	....	....	1	15	23,52	126	15	23,52	—	16	13,50	125	59	10,02
θ Lupi.....	15 55	....	....	....	1	20	33,73	126	20	33,73	—	16	33,40	126	4	0,33
β Telescopii...	18 6	6	48	39,70	5	48	30,46	126	48	35,50	—	18	28,70	126	30	6,80
λ Scorpii.....	17 22	1	58	37,30	5	58	38,43	126	58	38,24	—	19	14,20	126	39	24,04
γ Telescopii...	17 38	1	59	25,10	1	58	59,73	126	59	12,41	—	19	16,70	126	39	55,71

It will readily be understood that the above column "Barometer 29,6 Thermometer 50°" is computed from Bradley formula $r = 57",00 \times \tan. (z - 3r)$. If it should so happen that any of the Stars above given were observed under this pressure and at this temperature, then the column "Presumed Apparent N. P. D." will be the N. P. D. as actually observed at Greenwich corrected for aberration, &c. and reduced to the beginning of 1832; but since this can hardly be the case exactly in any one single instance, our "Presumed Apparent N. P. D." will be subject to the error which attaches to Bradley's correction for temperature and pressure; notwithstanding this apparently serious objection which (not being possessed of the Greenwich Observations for 1831) I am unable to remedy, and considering that the numbers for which we are seeking are large in proportion to the *uncertainty* of Bradley's correction for 10° or 15° of temperature or for 3 or 4 tenth of an inch of pressure (the probable extent for which the correction is required) I have ventured as a rough approximation to proceed with these computations.

† A single observation at this low altitude cannot much be depended upon; the difference between this Star and the preceding one compared with the Society's Catalogue is as follows:

R. A. S. Catalogue 1830.	Greenwich Observations of 1828 reduced to 1830.	Greenwich Observations of 1831 reduced to 1830.
h m s	h m s	h m s
126 58 3,48	126 58 30,70	126 58 31,83
126 58 41,54	126 59 21,30	126 58 55,93
Difference...38,06	50,60	24,10

As there appears no reason for attaching an error to one of these rather than to the other, I have attributed the disagreement to error incidental to observations at this altitude, and taken the mean accordingly.

NAMES.	A. R.	MADRAS.			GREENWICH.			Barometer 29,60 Ther. 50°.			Error of	
		Mean N.P.D. Jan. 1, 1832			Presumed Ap- parent N.P.D. Jan. 1, 1832.			Observed Refrac- tion.	Bradley's Refrac- tion.	Atkinson's Refrac- tion.	Bradley.	Atkin- son.
ζ Sagittarii...	18 51	120	6	44,74	120	0	30,72	6 14,02	6 7,33	6 7,91	— 6,69	— 6,11
α Antl. Pneum.	10 19	120	12	55,91	120	6	38,80	6 17,11	6 11,70	6 12,18	— 5,41	— 4,93
α App. Sculp.	0 50	120	16	2,41	120	9	44,96	6 17,45	6 13,83	6 14,28	— 3,62	— 3,17
γ ² Sagittarii...	17 55	120	25	2,81	120	18	37,68	6 25,13	6 20,12	6 20,44	— 5,01	— 4,69
α Piscis. Aust.	22 48	120	30	39,01	120	24	12,14	6 26,87	6 24,17	6 24,39	— 2,70	— 2,48
ν ² Eridani....	4 29	120	54	43,17	120	48	0,56	6 42,61	6 42,64	6 42,73	+ 0,03	+ 0,12
ξ Hyd. & Crat.	11 24	120	55	42,87	120	48	57,97	6 44,90	6 43,44	6 43,47	— 1,46	— 1,43
h Centauri....	13 43	121	5	38,66	120	58	45,74	6 52,92	6 51,55	6 51,05	— 1,37	— 1,87
θ Piscis. Aust.	21 37	121	40	16,01	121	32	51,35	7 24,66	7 22,29	7 21,04	— 2,37	— 3,62
k Centauri....	13 42	122	9	22,74	122	1	32,96	7 49,78	7 51,59	7 49,72	+ 1,81	— 0,06
* Centauri....	13 36	122	11	26,06	122	3	32,31	7 53,75	7 53,90	7 51,92	+ 0,15	— 1,83
κ ² Canis Maj.	6 43	122	19	9,50	122	11	9,19	8 0,31	8 2,31	7 59,89	+ 2,00	— 0,42
μ Columbae....	5 40	122	22	30,12	122	14	30,26	7 59,86	8 5,95	8 3,39	+ 6,09	+ 3,53
D Canis Maj.	6 22	122	28	43,76	122	20	33,87	8 9,89	8 13,27	8 10,45	+ 3,38	+ 0,56
α Pixid Naut.	8 36	122	35	3,72	122	26	46,75	8 16,97	8 20,85	8 17,77	+ 3,88	+ 0,80
4 Piscis. Aust.	21 7	122	52	5,40	122	43	28,88	8 36,52	8 41,88	8 38,06	+ 5,36	+ 1,54
β Hydrae.....	11 44	122	58	22,11	122	49	38,50	8 53,61	8 49,60	8 45,48	— 4,01	— 8,13
χ Lupi.....	15 40	123	5	28,93	122	57	28,25	9 0,68	9 0,82	8 56,27	+ 0,14	— 4,41
β Piscis. Aust.	22 22	123	12	14,90	123	3	8,94	9 5,96	9 8,83	9 4,04	+ 2,87	— 1,92
λ Canis Maj....	6 16	123	21	19,79	123	12	6,45	9 13,34	9 22,05	9 16,69	+ 8,71	+ 3,35
g Centauri....	13 40	123	36	28,83	123	26	48,27	9 40,56	9 45,02	9 38,65	+ 4,46	— 1,91
γ Piscis. Aust.	22 43	123	45	47,08	123	35	52,51	9 54,57	10 0,24	9 53,04	+ 5,67	— 1,53
ι Piscis. Aust.	21 35	123	47	14,47	123	37	14,74	9 59,73	10 2,56	9 55,26	+ 2,83	— 4,47
k Scorpii.....	16 54	123	52	38,09	123	42	30,40	10 7,69	10 11,60	10 3,97	+ 3,91	— 3,72
ε Scorpii.....	16 39	123	58	45,71	123	48	27,37	10 18,34	10 22,33	10 14,07	+ 3,99	— 4,27
α Columbae....	5 33	124	10	5,12	123	59	31,65	10 33,47	10 42,75	10 33,68	+ 9,28	+ 0,21
* Canis Maj....	6 45	124	10	25,09	123	59	48,39	10 36,70	10 43,20	10 34,03	+ 6,50	— 2,67
41 Eridani....	4 11	124	12	46,98	124	2	7,40	10 39,58	10 47,50	10 38,59	+ 7,92	— 0,99
α Normæ....	16 20	124	19	49,21	124	8	51,44	10 57,77	11 1,40	10 51,35	+ 3,63	— 6,42
α Microscopii..	20 39	124	23	43,11	124	12	39,70	11 3,41	11 9,60	10 59,26	+ 6,19	— 4,15
43 Eridani....	4 17	124	24	42,65	124	13	36,70	11 5,95	11 11,70	11 0,97	+ 5,75	— 4,98
ε Sagittarii...	18 12	124	27	18,19	124	16	5,20	11 12,99	11 16,90	11 5,85	+ 3,91	— 7,14
β Pixid Naut.	8 33	124	43	1,39	124	31	30,75	11 30,64	11 50,30	11 37,46	+ *19,66	+ 6,82
κ Columbae....	6 10	125	5	25,85	124	52	50,48	12 35,37	12 42,40	12 28,15	+ 7,03	— 7,22
γ Columbae....	5 51	125	18	25,92	125	5	15,60	13 10,32	13 16,30	13 0,40	+ 5,98	— 9,92
θ Centauri....	13 56	125	32	24,13	125	18	38,00	13 46,13	13 53,50	13 36,95	+ 7,37	— 9,18
ι Columbae....	5 25	125	35	56,03	125	22	5,86	13 50,17	14 4,50	13 47,07	+ 14,33	— 3,10
ι Centauri....	13 11	125	49	25,99	125	34	49,20	14 36,79	14 46,40	14 29,01	+ 9,61	— 7,78
β Columbae....	5 45	125	50	11,49	125	35	38,41	14 33,08	14 49,20	14 31,90	+ 16,12	— 1,18
φ ² Lupi.....	15 12	126	14	56,97	125	59	10,02	15 46,95	16 13,50	15 51,54	+ 26,55	+ 4,59
θ Lupi.....	15 55	126	20	13,64	126	4	0,33	16 13,31	16 33,40	16 10,29	+ 20,09	— 3,02
β Telescopii...	18 6	126	48	8,20	126	30	6,80	18 1,40	18 28,70	18 2,06	+ 27,30	+ 0,66
λ Scorpii.....	17 22	126	58	10,72	126	39	24,04	18 46,68	19 14,20	18 48,20	+ 27,52	+ 1,52
γ Telescopii...	17 38	126	58	43,66	126	39	55,71	18 47,95	19 16,70	18 49,35	+ 28,75	+ 1,40

The above columns will I apprehend require little or no explanation; consulting that headed "Errors of Bradley" we are led at once to the conclusion, that for altitudes below 5°, Bradley's Refraction can in no wise be

* The Greenwich place of this Star is probably 10 or 12 seconds too large.

trusted. For the altitudes above 5° , the errors incidental to one or two observations (which in some cases constitute the result), do not enable us to form an opinion. Consulting the column "Error of Atkinson"; between the limits of $81^\circ 30'$ and $85^\circ 30'$, and between $87^\circ 4'$ and $88^\circ 8'$ of Zenith Distance, we can perceive no error but what can be reasonably supposed to arise from the errors of observations joined to perhaps a small error* in the temperature; an error which must always exist when there is a considerable difference between the "in" and "out" Thermometer; neither of which in this case can be proper to be employed in computing the refraction; *between* these limits, viz. between $85^\circ 30'$ and $87^\circ 4'$ of Zenith Distance we find ten very accordant results, shewing that Atkinson's refractions are too small by about $6''$. To say nothing of the enormous errors which appear in the preceeding column (errors of Bradley) which have long since been acknowledged; we cannot but lament that whilst Astronomers have paid such ample and proper attention to the determination of the co-efficient of aberration, nutation, and precession, so much should be left undone in the way of refraction.

PARALLAX OF THE PLANET MARS.

Since Pages 90 and 91 were put to press, I have been favored with Volume VI of the Royal Astronomical Society's Memoirs, containing observations made at the Cape and at St. Helena, of the North Polar Distance of *Mars*,

* Supposing the error of temperature to be only a single degree of Fahrenheit, then the error of the refraction will be :

	.	"
For 84 Zenith Distance.....		0,8
— 85 ——— ———		1,0
— 86 ——— ———		1,3
— 87 ——— ———		1,7
— 88 ——— ———		2,3
— 89 ——— ———		3,2

Now notwithstanding all the care that is taken at the Greenwich Royal Observatory to equalise the temperature within and without, (and I have good reason for knowing that a very considerable degree of attention is paid to this particular), it is nevertheless not unfrequently found that a difference of 5 or 6 degrees exists between the "In" and "Out" Thermometer, it sometimes (most frequently) being warmer in the Observatory than in the open air, and at other times colder.

and of certain Stars, which had been previously pointed out by Mr. Henderson, Astronomer at the Cape, as proper for the determination of the parallax of this Planet; of the observations made at the Cape there have been several corresponding observations made here with which we will now compute the parallax of Mars: from Pages 90 and 91; &c. as above, we obtain as follows.

Difference of Declination between the Centre of the Planet MARS, and of Stars, from observations at

1832	NAMES.	Madras.					The Cape of Good Hope.				
		Observed Difference.		R.			Observed Difference.		R.		M.
		°	'	"	"		°	'	"	"	
Nov. 9	A ¹ Tauri.	0	35	20,6	+ 0,59 +	,1399 ρ	= 0	35	16,4	+ 1,79 -	10,30 + ,8162 ρ
	53 Tauri.	0	17	56,3	+ 0,30 -	,1399 ρ	= 0	17	55,9	+ 0,93 +	10,30 - ,8162 ρ
	a Tauri..	4	51	44,2	+ 4,68 -	,1399 ρ	= 4	51	35,3	+ 13,13 +	10,30 - ,8162 ρ
	15 b Tauri.	0	3	33,6	+ 0,06 -	,1378 ρ^i	= 0	3	29,6	+ 0,12 +	18,32 - ,8152 ρ^i
	53 Tauri.	0	9	37,5	+ 0,16 -	,1378 ρ^i	= 0	9	32,5	+ 0,50 +	18,32 - ,8152 ρ^i
	a Tauri.	4	43	23,2	+ 4,42 -	,1378 ρ^i	= 4	43	11,5	+ 12,66 +	18,32 - ,8152 ρ^i
	16 b Tauri.	0	1	45,4	+ 0,02 -	,1370 ρ^{ii}	= 0	1	40,5	+ 0,06 +	19,18 - ,8145 ρ^{ii}
	a Tauri.	4	41	35,6	+ 4,37 -	,1370 ρ^{ii}	= 4	41	23,4	+ 12,60 +	19,18 - ,8145 ρ^{ii}
	17 A ¹ Tauri.	0	47	18,0	+ 0,78 +	,1364 ρ^{iii}	= 0	47	23,1	+ 2,36 -	20,03 + ,8142 ρ^{iii}
	22 b Tauri..	0	10	51,4	+ 0,18 +	,1333 ρ^{iv}	= 0	10	59,3	+ 0,55 -	23,68 + ,8123 ρ^{iv}
Dec. 4	A ¹ Tauri.	0	58	2,8	+ 0,97 +	,1333 ρ^{iv}	= 0	58	9,8	+ 2,97 -	23,68 + ,8123 ρ^{iv}
	a Tauri.	4	29	0,6	+ 4,35 -	,1333 ρ^{iv}	= 4	28	43,4	+ 12,01 +	23,68 - ,8123 ρ^{iv}
	30 65 Arietis	0	7	58,3	+ 0,13 -	,1278 ρ^v	= 0	7	46,1	+ 0,18 +	23,51 - ,8091 ρ^v
	65 Arietis	0	0	43,4	+ 0,01 +	,1254 ρ^{vi}	= 0	0	56,3	+ 0,05 +	20,94 + ,8078 ρ^{vi}
	a Tauri.	4	1	27,9	+ 3,83 -	,1254 ρ^{vi}	= 4	1	13,3	+ 10,49 +	20,94 - ,8078 ρ^{vi}
	5 a Tauri.	3	59	27,1	+ 3,80 -	,1248 ρ^{vii}	= 3	59	19,0	+ 10,30 +	19,74 - ,8073 ρ^{vii}
	6 65 Arietis	0	4	37,8	+ 0,08 +	,1243 ρ^{viii}	= 0	4	44,2	+ 0,22 -	18,74 + ,8070 ρ^{viii}
	F ¹ Tauri.	0	58	2,8	+ 0,97 -	,1243 ρ^{viii}	= 0	57	58,1	+ 2,82 +	18,72 - ,8070 ρ^{viii}
	a Tauri.	3	57	34,5	+ 3,77 -	,1243 ρ^{viii}	= 3	57	24,1	+ 10,29 +	18,72 - ,8070 ρ^{viii}
	7 65 Arietis	0	6	24,6	+ 0,11 +	,1237 ρ^{ix}	= 0	6	30,5	+ 0,30 -	17,70 + ,8067 ρ^{ix}
	F ¹ Tauri.	0	56	17,0	+ 0,94 -	,1237 ρ^{ix}	= 0	56	12,4	+ 2,75 +	17,70 - ,8067 ρ^{ix}
	a Tauri.	3	55	46,4	+ 3,77 -	,1237 ρ^{ix}	= 3	55	37,9	+ 10,32 +	15,70 - ,8067 ρ^{ix}
	12 a Tauri.	3	48	31,3	+ 3,64 -	,1217 ρ^x	= 3	48	29,2	+ 9,85 +	11,32 - ,8054 ρ^x
	13 38 Arietis	0	3	30,8	+ 0,06 -	,1213 ρ^{xi}	= 0	3	31,4	+ 0,16 +	10,13 - ,8052 ρ^{xi}
	a Tauri.	3	47	26,3	+ 3,33 -	,1213 ρ^{xi}	= 3	47	27,2	+ 9,85 +	10,13 - ,8052 ρ^{xi}
	15 38 Arietis	0	1	48,7	+ 0,03 -	,1208 ρ^{xii}	= 0	1	53,3	+ 0,09 +	7,20 - ,8050 ρ^{xii}
	22 65 Arietis	0	17	31,5	+ 0,29 +	,1205 ρ^{xiii}	= 0	17	16,2	+ 0,82 +	4,29 + ,8048 ρ^{xiii}
	a Tauri.	3	44	39,0	+ 3,50 -	,1205 ρ^{xiii}	= 3	44	51,9	+ 9,81 -	4,29 - ,8048 ρ^{xiii}
	24 65 Arietis	0	16	21,5	+ 0,27 +	,1208 ρ^{xiv}	= 0	16	3,3	+ 0,77 +	7,71 + ,8051 ρ^{xiv}
	a Tauri.	3	45	47,8	+ 3,53 -	,1208 ρ^{xiv}	= 3	46	3,9	+ 9,91 -	7,71 - ,8051 ρ^{xiv}
	25 65 Arietis	0	15	32,6	+ 0,26 +	,1211 ρ^{xv}	= 0	15	14,4	+ 0,73 +	9,09 + ,8051 ρ^{xv}
	a Tauri.	3	46	39,4	+ 3,55 -	,1211 ρ^{xv}	= 3	46	53,1	+ 9,87 -	9,09 - ,8051 ρ^{xv}

In the above computation of R, which it will be understood is the difference of the refractions due to the Planet and Star, I have employed Atkinson's Table of Refractions, and have assumed the ratio of the Polar and Equatoreal Axis, 299 : 300; from which we determine:

		For the Observations at	
		Madras.	The Cape.
		' "	' "
Angle of the Vertical.....	=	5 0	10 38
Logarithm Radius of the Earth.....	=	9,99992	9,99958

Not having in my possession any Tables of the Planetary motions, from which I could compute the change of Declination (M.) for the interval between the Planet transiting the meridians of Madras and the Cape of Good Hope, I have been reduced to an interpolation from the observations, on which account errors to the amount of $0^{\circ}.2$ in any single measure may be expected; but as these will occur indifferently + or —, the mean result cannot on this account be much affected.

To render these results in a more useful shape, we will now compute P, the Parallax at the time of opposition, when the Planets distance from the Earth was ,50581 whose Logarithm = 9,7040. Employing the Logarithm Distances given in the Supplement to the Nautical Almanac and resolving the above equations.

1832	From the Observations of.	We determine.					
		"		"		"	
Nov.	9 A ¹ Tauri.....	13,30	=	,6763 ρ	or ρ	=	19,666 and P = 19,697
	53 Tauri.....	10,53	=	,6763 ρ	— ρ	=	15,570 — = 15,595
	a Tauri.....	9,85	=	,6763 ρ	— ρ	=	14,564 — = 14,590
	15 b Tauri.....	14,38	=	,6774 ρ^I	— ρ^I	=	21,228 — = 21,262
	53 Tauri.....	13,56	=	,6774 ρ^I	— ρ^I	=	20,017 — = 20,050
	a Tauri.....	14,86	=	,6774 ρ^I	— ρ^I	=	21,937 — = 21,972
	16 b Tauri.....	14,32	=	,6775 ρ^{II}	— ρ^{II}	=	21,137 — = 21,204
	a Tauri.....	15,21	=	,6775 ρ^{II}	— ρ^{II}	=	22,450 — = 22,520
	17 A ¹ Tauri.....	13,45	=	,6778 ρ^{III}	— ρ^{III}	=	19,844 — = 19,944
	22 b Tauri.....	15,41	=	,6790 ρ^{IV}	— ρ^{IV}	=	22,695 — = 23,122
	A ¹ Tauri.....	14,68	=	,6790 ρ^{IV}	— ρ^{IV}	=	21,620 — = 22,027
	a Tauri.....	14,14	=	,6790 ρ^{IV}	— ρ^{IV}	=	20,825 — = 21,216
	30 65 Arietis.....	11,36	=	,6813 ρ^V	— ρ^V	=	16,673 — = 17,707
	4 65 Arietis.....	8,00	=	,6824 ρ^{VI}	— ρ^{VI}	=	11,724 — = 12,803
	a Tauri.....	13,00	=	,6824 ρ^{VI}	— ρ^{VI}	=	19,050 — = 20,804
Dec.	5 a Tauri.....	18,14	=	,6825 ρ^{VII}	— ρ^{VII}	=	26,579 — = 29,247
	6 65 Arietis.....	12,18	=	,6827 ρ^{VIII}	— ρ^{VIII}	=	17,842 — = 19,784
	F ¹ Tauri.....	15,87	=	,6827 ρ^{VIII}	— ρ^{VIII}	=	18,464 — = 20,476
	a Tauri.....	14,64	=	,6827 ρ^{VIII}	— ρ^{VIII}	=	21,444 — = 23,778
	7 65 Arietis.....	11,61	=	,6830 ρ^{IX}	— ρ^{IX}	=	16,998 — = 19,007
	F ¹ Tauri.....	14,91	=	,6830 ρ^{IX}	— ρ^{IX}	=	21,830 — = 24,410
	a Tauri.....	15,75	=	,6830 ρ^{IX}	— ρ^{IX}	=	23,060 — = 25,783
	12 a Tauri.....	15,43	=	,6837 ρ^X	— ρ^X	=	22,568 — = 26,357
	13 38 Arietis.....	10,83	=	,6839 ρ^{XI}	— ρ^{XI}	=	15,837 — = 18,078
	a Tauri.....	17,55	=	,6839 ρ^{XI}	— ρ^{XI}	=	25,662 — = 30,268
	15 38 Arietis.....	11,86	=	,6842 ρ^{XII}	— ρ^{XII}	=	17,333 — = 20,768
	22 65 Arietis.....	10,48	=	,6843 ρ^{XIII}	— ρ^{XIII}	=	15,316 — = 19,748
	a Tauri.....	14,92	=	,6843 ρ^{XIII}	— ρ^{XIII}	=	21,803 — = 28,108

1832	From the Observations of.	We determine.					
		"		"		"	
Dec. 24	65 Arietis.....	9.99	=	,6843	ρ^{xiv}	—	ρ^{xiv} = 14,600 and P = 19,224
	a Tauri.....	14.47	=	,6843	ρ^{xiv}	—	ρ^{xiv} = 21,145 — = 28,122
25	65 Arietis.....	8.64	=	,6840	ρ^{xv}	—	ρ^{xv} = 12,632 — = 16,809
	a Tauri.....	11.03	=	,6840	ρ^{xv}	—	ρ^{xv} = 16,126 — = 21,461

The above results it must be confessed are highly unsatisfactory ; a nearer coincidence does however appear to take place between the *individual* determinations of each Star than is found by viewing them collectively, which is better seen by the following arrangement.

Values of P, deduced from observations made at Madras compared with the corresponding observations at the Cape.

1832	38 Arietis.	65 Arietis.	δ Tauri.	53 Tauri.	A ¹ Tauri.	F ¹ Tauri.	a Tauri.
	"	"	"	"	"	"	"
November 9	.....	.....	.....	15,595	19,697	.....	14,590
15	.....	.....	21,262	20,051	.....	.....	21,972
16	.....	.....	21,204	.....	.....	.....	22,520
17	.....	.....	.....	.....	19,944	.....	.....
22	.....	.....	23,122	.....	22,027	.....	21,216
30	.....	17,707	.....	.....	.....	.....	.....
December 4	.....	12,803	.....	.....	.....	.....	20,804
5	.....	.....	.....	.....	.....	.....	*29,247
6	.....	19,784	.....	.....	.....	20,476	23,778
7	.....	19,007	.....	.....	.....	24,410	25,783
12	.....	.....	.....	.....	.....	.....	26,357
13	18,678	.....	.....	.....	.....	.....	†30,268
15	20,768	.....	.....	.....	.....	.....	.....
22	.....	19,748	.....	.....	.....	.....	28,108
24	.....	19,229	.....	.....	.....	.....	28,122
25	.....	16,809	.....	.....	.....	.....	21,461
Mean.....	19,713	17,869	21,863	17,823	20,556	22,443	23,155

When we consider that the above values are determined from the *difference of differences* (involving in extreme cases an eight fold amount of error) and that in the course of computation we have multiplied the results by a factor $\frac{100}{68}$ and by another varying from 1 to $\frac{100}{74}$, we are at no loss to account for the irregularities now found in the results of the first six Stars, since on computation it will be found that they do not involve for each single obser-

* The Cape Observation of Mars, appears to be 5" in Error.

† ————— 2" —————

vation a larger probable error than 1", an amount which might reasonably be expected; but in the case of α Tauri the disagreement assumes so determined a character that we can by no means allow that the errors incidental to observation can account for it: to comprehend this matter more clearly we will again consult the rough observations Pages 90 and 91, Vol. VI of the Royal Astronomical Society's Memoirs, whence we obtain as follows.

Difference of Declination between 53 Tauri and α Tauri as observed

<i>at Madras.</i>			<i>at the Cape.</i>			<i>at St. Helena.</i>		
1832	"	"	1832	"	"	1832	"	"
November	9..	4 33 47,90	October	22..	4 33 37,40	October	14..	4 33 45,20
	15..	4 33 45,70		24..	4 33 39,10		15..	4 33 44,80
				25..	4 33 39,30	November	14..	4 33 44,30
			November	8..	4 33 40,30			
				9..	4 33 39,40			
				10..	4 33 39,70			
				11..	4 33 39,00			
				12..	4 33 41,50			
				13..	4 33 40,50			
				15..	4 33 39,00			
Mean.....		4 33 46,80			4 33 39,52			4 33 44,77
Diff. of Refraction.	+	4,32			+ 12,04			+ 6,39
True Difference....		4 33 51,12			4 33 51,56			4 33 51,16

And further we have the

Difference of Declination between 38 Arietis and α Tauri as observed

<i>at Madras.</i>			<i>at the Cape.</i>			<i>at St. Helena.</i>		
1832	"	"	1832	"	"	1832	"	"
December	13..	3 43 55,50	December	12..	3 43 55,00	December	18..	3 43 57,00
	15..	3 43 54,80		13..	3 43 55,80			
	16..	3 43 55,80		22..	3 43 53,40			
	18..	3 43 54,60		23..	3 43 52,30			
				24..	3 43 52,40			
				25..	3 43 51,30			
Mean.....		3 43 55,17			3 43 53,37			3 43 57,00
Diff. of Refraction.	+	3,27			+ 9,69			+ 5,00
True Difference....		3 43 58,44			3 44 3,06			3 44 2,00

Moreover we have the

Difference of Declination between 65 Arietis and α Tauri as observed

<i>at Madras.</i>				<i>at the Cape.</i>				<i>at St. Helena.</i>			
1832	°	'	"	1832	°	'	"	1832	°	'	"
December	4..	4	2 11,30	November 30..	4	2	8,00	November 30..	4	2	14,10
	6..	4	2 12,30	December 1..	4	2	9,40	December 1..	4	2	13,80
	7..	4	2 11,00		3..	4	2 6,50		4..	4	2 14,80
	20..	4	2 9,30		4..	4	2 9,60		5..	4	2 15,10
	21..	4	2 9,90		5..	4	2 6,70		6..	4	2 14,00
	22..	4	2 10,55		6..	4	2 8,30		18..	4	2 13 30
	24..	4	2 9,30		7..	4	2 8,40		19..	4	2 11,40
	25..	4	2 12,00		8..	4	2 7,60				
					9..	4	2 6,70				
					10..	4	2 7,60				
Mean.....	4	2	10,70		4	2	7,88		4	2	13,79
Diff. of Refraction.	+		3,84				+ 10,56				+ 5,47
True Difference....	4	2	14,54		4	2	18,44		4	2	19,26

In each of the above cases, the observations having been made at nearly the same time of the year, the difference of the corrections for aberration, &c. will be very nearly common for the result obtained at each Observatory, and for the present enquiry may be disregarded altogether: Examining the "true difference" the agreement between the results at the Cape and those at St. Helena, affords us good reason for supposing them accurate, and for employing them as standards of comparison. If we accordingly compare the Madras "True difference" with that found from

<i>We determine.</i>	<i>The Cape Observations.</i>	<i>The St. Helena Observations.</i>
	"	"
$e + e^I$	= — 0,44	— 0,04
$e + e^{II}$	= — 4,62	— 3,56
$e + e^{III}$	= — 3,90	— 4,72

Taking the mean we have:

$$e + \frac{e^I + e^{II} + e^{III}}{3} = - 2,98 \quad = - 2,77$$

In the above, e represents the error of division for α Tauri, e^I that for 53 Tauri, &c. Here (in the case of divisions situated within 3° or 4° of each

other) it appears plain, that if we could obtain a sufficient number of results; the values e' e'' , &c. occurring as they no doubt do with contrary signs, we could determine e to any required degree of accuracy; even with the very limited number we already possess it *appears exceedingly probable that the divisions $73^{\circ} 50'$ and $73^{\circ} 55'$ of the Madras Mural Circle are erroneous to the amount of two seconds*, and comparing the mean place of α Tauri from 146 Observations made at Madras, with the Greenwich place from three times that number of observations, I find a difference = $-1''.71$ which so strongly supports the above conjecture that for the present it becomes necessary to suppress altogether the results obtained from α Tauri; were however the circumstances different; the distance of this Star from the Planet Mars ($4^{\circ} \pm$) would have rendered it questionable if its result ought to be admitted. Taking the mean of the remaining 19 Observations we determine $P = 19''.595$.

Since writing the above — signing as it were the death warrant of the Madras Observations; with a firm conviction that the discordances found in the place of α Tauri did not arise from error of division I have proceeded as follows.

Error of Division of the Madras Mural Circle.

About two years ago I made a set of experiments to ascertain the amount of error in the division of the Madras Mural Circle; having transmitted copy of these observations to England for publication, it is only necessary for me here to remark, that in the course of an examination of every 5th degree; I met with no error which could affect the mean of the four readings to the amount of one second: Now the divisions $69^{\circ} 50'$, $70^{\circ} 10'$ and $73^{\circ} 55'$ on which 56 Arietis, 38 Arietis and α Tauri were respectively observed, not having fallen under this examination, it still becomes necessary, either to admit the remarks at lines 4 — 6; or by a direct appeal to those divisions to ascertain their *actual* amount of error; pursuing the latter course I have adopted a plan on the present occasion similar to that contrived for the above-mentioned examination, which I will now proceed to explain. In the description of the Madras Mural Circle given in the 1st Volume of these results, it is stated, that "the Telescope is attached to the circular ring at each end by appropriate braces, each secured by four strong screws; and is further supported in the middle, by an axis (represented by dotted lines fig. 1) which passes through the axis of the circle, and is secured by a screw C affixed to its smaller end;" from this description it will appear plain that the screws at each end of the Telescope which serve to secure it to the circular ring being loosed; the Telescope is free to turn upon its axis independent of the circle;

by which property we are enabled to measure any angle upon any required divisions, by merely shifting the place of the Telescope upon the ring. To obtain an object which could be distinctly viewed through an Astronomical Telescope, (in which the eye piece is required to be adjusted to the Solar focus,) I availed myself of the well known property of the rays of light, which, diverging from the principal focus of an object glass, after passing through the object glass are transmitted as parallel rays; and hence possess the property of an object placed at an infinite distance; but to be particular; I placed Dolland's 5 feet Achromatic Telescope about 5 feet in front (to the North) of the Mural Circle, with its object glass *vis a vis* to the object glass of the Mural Circle Telescope, and its whole length so disposed that a line passing through the centre of the one Telescope, being continued, would equally pass through the centre of the other: I now rested another Telescope (a 46 Inch Achromatic by Dolland) immediately above the first named Telescope, by means of two pieces of wood A, B, (see fig.) of such dimensions, that the angle subtended by the two Telescopes was nearly that which I required, and such that the Mural Circle Telescope being directed to the said upper Telescope; a line passing through the centre of the one if continued would equally pass through the centre of the other; matters thus arranged I introduced into the principal focus of the upper Telescope a pair of cross lines, which by means of a light placed behind them, were very distinctly seen by the Circle Telescope, and were adjusted to horizontality;—moving the circle and its attached Telescope through the angle subtended by the two Telescopes; a similar pair of lines which had been fitted into the micrometer attached to the lower Telescope now came into view, and the angle formed by the two Telescopes was thus read off from the circle; as this angle did not at first agree with that which was required, the micrometer screw of the lower Telescope enabled me to adjust it to any required degree of accuracy. The Circle was made to read off $70^{\circ} 10' 35''$ (the reading at which 38 Arietis (Page 91) was observed and clamped; the Telescope being released from the circle, was directed to the wires of the *lower Telescope* very nearly, again clamped, and an accurate bisection of them made by the moveable wire of the circle Telescope; the circle was now very carefully read off and the bisection of the cross wires again examined and if necessary improved; unclamping the circle, it was with its now attached Telescope moved to view the cross lines of the upper Telescope, of which an accurate bisection was made and the circle again read off; here the reading was $(73^{\circ} 54' 25'' \pm)$;—as nearly as need be that which was employed in the observations of α Tauri (Page 91), consequently any error arising from ill division which may be attached to the measured difference of declination of these two Stars as found at Page 122, will equally affect the measure of the angle between

the two Telescopes (*collimators*) above described; to ascertain its amount I have measured the above angle between the two collimators on several sets of divisions as follows.

Angular inclination of the two Telescopes on the 2d September 1834, as measured by the Mural Circle, on the divisions employed in the observations of α Tauri and 38 Arietis, together with the measurement of the same upon sundry other divisions.

		A.	B.	C.	D.	Mean.	Angle between the Collimators as measured by		
							Divisions 70° 10' and 73° 54'.	Sundry Divisions.	
°	'	"	"	"	"	"	°	'	"
70	10	36,1	42,1	49,0	40,4	41,90	3	43	52,50
73	54	28,5	34,5	42,6	32,0	34,40			
80	11	11,3	20,0	15,7	16,0	15,75			
83	55	0,6	10,7	14,5	7,8	8,40	.....	3	43 52,65
80	11	11,9	20,3	16,5	17,0	16,42			
83	55	0,6	11,6	14,0	8,6	8,70	.....	3	43 52,28
90	11	9,3	15,3	18,5	13,2	14,08			
93	54	59,3	5,6	12,0	5,1	5,50	.....	3	43 51,42
100	11	9,8	15,0	17,2	15,2	14,30			
103	55	0,4	9,5	11,3	5,5	6,67	.....	3	43 52,37
70	10	36,8	43,8	49,0	41,5	42,78	3	43	52,42
73	54	29,4	36,1	41,3	34,0	35,20			
70	10	31,0	37,2	43,0	36,4	36,90			
73	54	22,2	28,0	35,0	31,8	29,25	3	43	52,35
80	11	6,1	14,5	10,3	11,0	10,47			
83	54	55,6	6,4	8,5	2,0	3,12	.....	3	43 52,65
90	11	13,9	18,1	22,0	16,3	17,57			
93	55	3,0	8,8	12,0	7,9	7,92	.....	3	43 50,35
100	11	9,1	15,1	15,3	13,2	13,17			
103	54	59,8	5,0	8,8	6,0	4,90	.....	3	43 51,73
110	11	6,9	12,4	13,3	11,8	11,10			
113	54	57,4	4,0	6,8	4,7	3,25	.....	3	43 52,15
120	11	6,2	12,1	6,5	14,0	9,70			
123	54	58,6	1,9	3,8	1,5	1,45	.....	3	43 51,75
130	11	10,1	12,1	13,3	11,0	11,62			
133	55	0,3	4,4	7,2	2,8	3,67	.....	3	43 52,05
140	11	9,8	13,5	15,3	10,5	12,40			
143	55	1,2	6,0	7,2	3,1	4,37	.....	3	43 51,97
150	11	0,0	3,0	6,0	1,2	2,55			
153	54	50,4	53,2	57,0	53,7	53,57	.....	3	43 51,02
70	10	36,0	41,1	44,8	40,2	40,52	3	43	51,88
73	54	28,0	33,9	37,0	30,7	32,40			
Mean....							3	43	52,29
							3	43	51,87

The Telescopes were allowed to remain undisturbed and on the 3d September 1834, the following measures were taken.

		A.	B.	C.	D.	Mean.	Angle between the Collimators as measured by		
							Divisions 70° 10' and 73° 54'.	Sundry Divisions.	
°	'	"	"	"	"	"	°	'	"
70	10	39,9	47,0	47,3	44,3	44,62	3	43	49,90
73	54	30,0	37,9	34,0	34,2	34,52			
70	10	38,2	44,5	45,3	43,2	42,80			
73	54	27,7	33,6	34,5	32,5	32,07	3	43	49,27
80	11	14,2	21,2	16,5	18,7	17,65			
83	55	1,9	9,5	9,0	8,0	7,10			
90	11	12,0	16,6	15,6	14,7	14,72	3	43	49,45
93	55	0,2	5,1	5,8	4,8	3,97			
100	11	12,0	17,9	15,7	16,0	15,40			
103	55	0,0	7,4	5,0	5,2	4,40	3	43	49,00
110	11	12,1	16,4	15,4	16,6	15,12			
113	55	0,0	8,0	4,5	6,3	4,70			
120	11	11,9	17,2	15,5	13,2	14,45	3	43	49,58
123	55	1,1	6,6	3,8	5,4	4,22			
130	11	14,1	16,1	13,2	14,5	14,47			
133	55	1,3	4,5	3,0	5,0	3,45	3	43	48,98
140	11	12,9	15,5	12,0	14,3	13,68			
143	55	0,2	7,5	2,0	4,0	3,42			
150	11	11,6	14,4	13,0	14,6	13,40	3	43	49,74
153	55	0,5	5,4	3,2	4,3	3,35			
70	11	49,2	54,5	54,0	53,2	52,72			
73	54	38,9	44,2	43,3	42,5	42,22	3	43	49,50
80	11	12,0	19,2	16,2	16,5	15,97			
83	55	0,1	9,5	6,6	6,8	5,75			
90	11	12,4	19,4	16,2	15,8	15,95	3	43	49,78
93	55	0,3	6,5	5,0	4,8	4,15			
100	11	13,1	16,6	14,6	15,3	14,90			
103	55	0,2	6,5	3,7	4,8	3,80	3	43	48,90
110	11	12,6	17,8	15,8	17,6	15,95			
113	55	0,0	6,2	4,3	6,0	4,12			
120	11	12,2	16,0	15,3	13,8	14,32	3	43	48,17
123	55	0,8	4,5	5,7	4,0	3,75			
130	11	12,0	13,5	11,6	14,1	12,80			
133	55	0,7	4,6	2,2	3,8	2,82	3	43	50,02
140	11	12,5	16,5	12,0	13,8	13,95			
143	55	0,8	7,3	3,7	4,3	4,02			
153	11	11,8	14,4	13,7	14,8	13,68	3	43	50,07
153	55	0,8	5,2	3,7	4,8	3,62			
70	11	40,5	46,0	45,0	44,3	43,95			
73	54	29,8	35,3	33,6	32,7	32,85	3	43	48,90
70	11	39,1	46,0	44,0	43,8	43,22			
73	54	29,0	34,1	32,5	32,7	32,08			
Mean....							3	43	49,48
							3	43	49,39

The change of 3" in the angle between the observations of September 2d and 3d, no doubt arises from a shrinking of the wooden supports; this however is of no consequence in our present enquiry, since we only require that the angle should remain fixed during the observations of the day, or for the space of an hour which (with one assistant stationed at each microscope) was the time employed on each day.

The angle was now increased to $4^{\circ} 2' 8''$ nearly; and its exact quantity measured upon the divisions $69^{\circ} 50'$ and $73^{\circ} 50'$ (these being the divisions at which δ Arietis and α Tauri were respectively observed), and upon sundry other divisions as follows.

6th September.

		A.	B.	C.	D.	Mean.	Angle between the Collimators as measured by						
							Divisions 70° 10' and 73° 54'.			Sundry Divisions.			
°	'	"	"	"	"	"	°	'	"	°	'	"	
69	49	14,1	24,8	17,3	23,0	19,80	4	2	7,05		4	2	5,98
73	51	23,9	28,1	25,8	29,6	26,85							
79	49	15,8	23,9	18,0	19,5	19,30							
83	51	21,2	28,5	24,6	26,8	25,28	.....				4	2	7,23
89	49	14,7	22,7	20,3	20,5	19,55	.....				4	2	6,80
93	51	23,2	29,2	26,1	28,6	26,78	.....				4	2	7,07
99	49	15,4	22,5	17,3	20,2	18,85	.....				4	2	6,85
103	53	23,1	28,6	25,1	25,8	25,65	.....				4	2	7,34
109	49	15,8	23,5	18,0	21,4	19,68	.....				4	2	7,14
113	53	24,4	28,6	24,8	29,2	26,75	.....				4	2	7,38
119	49	11,0	17,6	14,6	14,4	14,40	.....					
123	53	18,4	23,2	20,7	22,7	21,25	.....					
129	49	13,9	19,4	13,2	18,2	16,18	.....					
133	53	21,8	25,2	21,1	26,0	23,52	.....					
139	49	14,1	18,2	13,4	19,0	16,18	.....					
143	53	21,6	26,0	20,7	25,0	23,32	.....					
149	49	17,2	22,4	18,2	19,9	19,42	.....					
153	53	26,4	28,0	25,0	27,8	26,80	.....					
69	49	15,0	22,6	19,2	21,5	19,58	4	2	7,67		4	2	6,97
73	51	26,3	28,4	25,8	28,5	27,25							
Mean....							4	2	7,36		4	2	

7th September.

		A.	B.	C.	D.	Mean.	Angle between the Collimators as measured by					
							Divisions 70° 10' and 73° 54'.			Sundry Divisions.		
°	'	"	"	"	"	"	°	'	"	°	'	"
69	49	16,0	25,3	21,4	26,1	22,20	4	2	8,65	4	2	7,90
73	51	28,0	33,9	29,1	32,4	30,85						
79	49	16,2	25,0	19,1	23,1	20,85						
83	51	23,3	31,9	28,3	31,5	28,75	.....			4	2	7,80
89	49	15,4	24,5	20,9	22,8	20,90						
93	51	25,0	32,4	27,3	30,1	28,70						
99	49	15,2	23,6	17,0	21,2	19,25	.....			4	2	8,80
103	53	25,0	32,2	26,0	29,0	28,05						
109	49	15,6	24,0	17,1	22,0	19,67						
113	53	24,0	32,0	24,5	30,1	27,65	.....			4	2	7,98
119	49	15,2	22,6	18,6	21,0	19,35						
123	53	25,4	31,0	26,1	28,8	27,82	.....						4	2	8,47

						Angle between the Collimators as measured by					
						Divisions 70° 10' and 73° 54'.			Sundry Divisions.		
	A.	B.	C.	D.	Mean.						
129 49	17,7	24,4	18,6	21,9	20,65	.....	4	2	7,15		
133 53	26,0	30,8	25,3	29,1	27,80	.....	4	2	8,67		
139 49	15,0	18,6	13,0	18,0	16,16	.....	4	2	8,95		
143 53	23,1	29,0	21,2	26,0	24,82	.....	4	2	8,95		
149 49	14,2	21,5	15,3	15,4	16,60	.....	4	2	8,95		
153 53	24,2	29,2	23,1	25,7	25,55	.....	4	2	8,93		
69 49	15,8	24,6	19,1	23,8	20,82	.....	4	2	8,05		
73 51	28,7	32,2	28,0	30,1	29,75	.....	4	2	8,05		
69 49	15,9	25,0	20,2	23,7	21,20	.....	4	2	8,05		
73 51	27,7	32,5	27,6	29,1	29,25	.....	4	2	8,05		
Mean.....						4	2	8,54	4	2	8,22

Hence it appears that the angular distance between 38 *Arietis* and α *Tauri* as observed at Madras (Page 122) is erroneous by reason of error of division.

From the observations of	to the amount.
2d September 1834.....	+ 0,42
3d ——— 1834.....	+ 0,09
Mean.....	+ 0,25

It further appears that the angular distance between 65 *Arietis* and α *Tauri* as observed at Madras (Page 123) is erroneous by reason of error of division.

From the observations of	to the amount.
6th September 1834.....	+ 0,39
7th ——— 1834.....	+ 0,32
Mean.....	+ 0,35

The above results, whilst they leave nothing to be desired with regard to the division of the circle, still leave unexplained the discordant results of Page 123; they do not as we have seen arise from error of division in the Madras Mural Circle, and it is *highly improbable* that the Cape or St. Helena Instruments can err from error of division to this amount (4" +). From a comparison of numerous observations of N. P. D. with the mean result, I find that the mean error of a single observation is considerably less than 1", but allowing it to equal this amount, and making a further liberal allowance for

possible errors, we can in no way make up the amount of 4" +. For the present I am compelled to allow this singular and unexpected anomaly to remain unexplained, but venture to hope that in the next Volume of these observations I shall be enabled to offer some sort of conclusion as to its cause.

Error of Observation ; Parallax of α Aquilæ.

With reference to the remarks at Page 129, I had here proposed to give the result of each single observation of the North Polar Distance of one or more of the principal fixed Stars, by way of exhibiting the extent of error committed in this nature of observation; and had commenced for the purpose an examination of the catalogue, to ascertain which Star had been most frequently observed; when the recollection of the reputed annual parallax of α Aquilæ led me to select this Star, and to join to my original enquiry the question of parallax; I must however remark, that the observations which now follow having been made simply for the purpose of determining the Index Error of the Mural Circle and the place of the Star, are not so numerous, or so well disposed for the determination of Parallax as under other circumstances they might have been; if π represent the semiaxis minor of the Earth's orbit (supposed to be a circle) as viewed from α Aquilæ, and λ the Latitude of the Star; we have the semiaxis major or

$\rho = \cos. (\text{Long. } \odot - \text{Long. } *) \frac{\pi}{\sin. \lambda}$ nearly: selecting now the observations which are situated near to the positive and negative maximum of Parallax, we have as follows.

1831	N. P. D. from Circle Book.			Refrac- tion.	Aberra- tion, &c.	Index Error.	Annual Preces- sion.	Mean N. P. D. January 1, 1832.									
	°	'	"	"	"	'	"	°	'	"							
February	1	81	35 58.0	+	4.43	+	0.78	—	1 45.77	—	8.67	81	34	8 77	+	,486	ρ
	2	81	35 58.7	+	4.42	+	0.71	—	1 46.47	....		81	34	8.69	+	,484	ρ
	3	81	36 0.5	+	4.42	+	0.64	—	1 47.29	....		81	34	9.60	+	,482	ρ
	7	81	36 0.3	+	4.43	+	0.35	—	1 46.58	....		81	34	9.83	+	,471	ρ
	8	81	36 0.9	+	4.41	+	0.27	—	1 46.58	....		81	34	10.33	+	,468	ρ
	10	81	36 1.4	+	4.41	+	0.12	—	1 46.80	....		81	34	10.46	+	,462	ρ
	12	81	36 0.4	+	4.42	—	0.22	—	1 46.96	....		81	34	8.97	+	,456	ρ
	13	81	35 59.3	+	4.41	—	0.39	—	1 47.14	....		81	34	7.51	+	,451	ρ
	14	81	36 0.8	+	4.41	—	0.55	—	1 47.14	....		81	34	8.85	+	,448	ρ
	15	81	36 1.7	+	4.40	—	0.71	—	1 46.50	....		81	34	10.22	+	,444	ρ
	18	81	36 1.2	+	4.38	—	1.18	—	1 46.57	....		81	34	9.16	+	,431	ρ
	21	81	36 1.4	+	4.39	—	1.70	—	1 46.95	....		81	34	8.47	+	,416	ρ
	23	81	36 0.2	+	4.40	—	2.02	—	1 46.89	....		81	34	7.02	+	,406	ρ
	24	81	36 1.4	+	4.39	—	2.11	—	1 46.89	....		81	34	8.12	+	,401	ρ
	27	81	36 2.8	+	4.40	—	2.43	—	1 48.03		88	34	7.07	+	,386	ρ

RESULT OF OBSERVATIONS IN 1832 AND 1833.

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1831		N. P. D. from Circle Book.			Refrac- tion.	A berra- tion, &c.	Index Error.		Annual Preces- sion.	Mean N. P. D. January 1, 1832.				
		°	'	"	"	"	'	"	"	°	'	"		
March	1	81	36	2,3	+	4,42	—	2,58	—	1	47,49	—	8,67	81 34 7,98 + ,375 ρ
	2	81	36	2,3	+	4,42	—	2,66	—	1	47,49	—	.....	81 34 7,90 + ,369 ρ
	3	81	36	3,3	+	4,43	—	2,73	—	1	46,83	—	.....	81 34 9,50 + ,363 ρ
	4	81	36	2,2	+	4,48	—	2,81	—	1	46,83	—	.....	81 34 8,37 + ,357 ρ
	5	81	36	3,4	+	4,46	—	2,89	—	1	47,67	—	.....	81 34 8,63 + ,351 ρ
	6	81	36	2,6	+	4,45	—	2,96	—	1	47,67	—	.....	81 34 7,75 + ,345 ρ
	7	81	36	2,3	+	4,42	—	3,03	—	1	46,98	—	.....	81 34 8,04 + ,338 ρ
	13	81	36	3,0	+	4,40	—	3,32	—	1	47,14	—	.....	81 34 8,27 + ,305 ρ
	15	81	36	2,9	+	4,40	—	3,37	—	1	46,42	—	.....	81 34 8,84 + ,291 ρ
1832														
February	20	81	37	11,1	+	4,37	—	4,48	—	3	2,03	—	0,00	81 34 8,96 + ,423 ρ
	27	81	37	26,7	+	4,42	—	4,98	—	3	16,37	—	.....	81 34 9,77 + ,387 ρ
	29	81	37	24,9	+	4,44	—	5,12	—	3	16,37	—	.....	81 34 7,85 + ,375 ρ
March	1	81	37	25,9	+	4,45	—	5,19	—	3	16,37	—	.....	81 34 8,81 + ,369 ρ
	2	81	37	24,1	+	4,45	—	5,26	—	3	16,37	—	.....	81 34 7,94 + ,364 ρ
	3	81	37	25,3	+	4,44	—	5,33	—	3	16,37	—	.....	81 34 8,06 + ,359 ρ
	6	81	37	25,7	+	4,43	—	5,52	—	3	15,25	—	.....	81 34 9,38 + ,341 ρ
	8	81	37	26,7	+	4,42	—	5,65	—	3	15,55	—	.....	81 34 9,92 + ,327 ρ
	9	81	37	25,7	+	4,44	—	5,71	—	3	15,55	—	.....	81 34 8,92 + ,320 ρ
	11	81	37	38,2	+	4,44	—	5,77	—	3	27,81	—	.....	81 34 9,06 + ,307 ρ
	12	81	37	38,5	+	4,44	—	5,81	—	3	28,16	—	.....	81 34 8,97 + ,300 ρ
	13	81	37	37,6	+	4,45	—	5,85	—	3	28,48	—	.....	81 34 7,72 + ,293 ρ
	15	81	37	38,0	+	4,45	—	5,93	—	3	28,48	—	.....	81 34 8,04 + ,279 ρ
December	21	81	41	10,6	+	4,42	+	11,16	—	7	17,71	—	.....	81 34 8,47 + ,433 ρ
1833														
January	3	81	36	59,6	+	4,43	+	0,30	—	3	5,36	+	8,67	81 34 7,64 + ,479 ρ
	5	81	37	0,9	+	4,44	—	0,05	—	3	6,05	—	.....	81 34 7,91 + ,484 ρ
	6	81	37	0,4	+	4,44	—	0,22	—	3	4,56	—	.....	81 34 8,73 + ,486 ρ
	7	81	37	0,7	+	4,44	—	0,39	—	3	4,56	—	.....	81 34 8,86 + ,488 ρ
March	16	81	35	40,5	+	4,44	—	8,95	+	1	36,48	—	.....	81 34 8,18 + ,272 ρ
1831														
July	13	81	37	13,8	+	4,34	+	12,41	—	3	10,66	—	.....	81 34 11,22 — ,495 ρ
	16	81	37	5,3	+	4,38	+	12,97	—	3	4,70	—	8,67	81 34 9,28 — ,497 ρ
	17	81	37	7,2	+	4,35	+	13,14	—	3	4,70	—	.....	81 34 9,32 — ,498 ρ
	28	81	37	15,5	+	4,32	+	15,02	—	3	15,61	—	.....	81 34 11,54 — ,497 ρ
August	10	81	37	12,5	+	4,33	+	16,98	—	3	16,38	—	.....	81 34 9,76 — ,474 ρ
	11	81	37	12,7	+	4,33	+	16,86	—	3	16,38	—	.....	81 34 9,84 — ,471 ρ
	22	81	37	11,6	+	4,34	+	18,42	—	3	16,43	—	.....	81 34 10,76 — ,432 ρ
	23	81	37	11,1	+	4,33	+	18,53	—	3	15,51	—	.....	81 34 9,78 — ,429 ρ
	26	81	37	11,1	+	4,36	+	18,85	—	3	15,55	—	.....	81 34 10,09 — ,420 ρ
1833														
August	5	81	35	12,8	+	4,34	+	10,55	—	1	26,38	—	.....	81 34 9,97 — ,486 ρ
	6	81	35	11,7	+	4,34	+	10,69	—	1	26,38	+	8,67	81 34 9,02 — ,484 ρ
	7	81	35	12,1	+	4,33	+	10,82	—	1	26,38	—	.....	81 34 9,54 — ,482 ρ
	16	81	35	10,3	+	4,34	+	11,99	—	1	26,38	—	.....	81 34 8,92 — ,456 ρ
	29	81	35	9,2	+	4,36	+	13,36	—	1	26,84	—	.....	81 34 8,75 — ,401 ρ
	30	81	35	8,3	+	4,36	+	13,43	—	1	26,66	—	.....	81 34 8,10 — ,396 ρ
September	5	81	35	7,8	+	4,35	+	13,89	—	1	26,66	—	.....	81 34 8,05 — ,363 ρ
	8	81	35	6,2	+	4,35	+	14,12	—	1	26,46	—	.....	*81 34 6,88 — ,346 ρ

* This is omitted in taking the mean.

1833	N. P. D. from Circle Book.	Refrac- tion.	Aberra- tion, &c.	Index Error.	Annual Preces- sion.	Mean N. P. D. January 1, 1832.
	° ' "	"	"	' "	"	° ' "
September 10	81 35 9,8	+ 4,35	+ 14,27	— 1 28,55	....	81 34 8,54 — ,334 ρ
11	81 35 9,5	+ 4,34	+ 14,32	— 1 28,55	....	81 34 8,28 — ,327 ρ
12	81 35 9,8	+ 4,36	+ 14,37	— 1 28,55	....	81 34 8,65 — ,321 d
13	81 35 9,3	+ 4,36	+ 14,42	— 1 28,55	....	81 34 8,20 — ,314 ρ
15	81 35 10,6	+ 4,34	+ 14,51	— 1 28,55	....	81 34 9,57 — ,300 ρ

Taking the mean we have:

Mean N.P.D. January 1, 1832.

From 24 Observations in the Winter of 1830-1831	—	81 34 8,682	+ ,408 ρ
From 13 ———— 1831-1832	—	81 34 8,723	+ ,342 ρ
From 6 ———— 1832-1833	—	81 34 8,298	+ ,440 ρ
From 9 ———— Summer of 1831	—	81 34 10,177	— ,468 ρ
From 12 ———— 1833	—	81 34 8,900	— ,389 ρ

$$\therefore \rho = 0'',978$$

or the angle under which the Earth's orbit is seen at α Aquilæ* = $1'',96$. Considering the disagreement which is found to exist between the numerous results of the Greenwich and Dublin Instruments when applied to the determination of the Parallax of α Aquilæ, it would appear that the above result as far as the determination of parallax is concerned, is entitled to very little if any credit; one circumstance however will be found to affect *these* observations which goes far to diminish the weight of this objection. It must be recollected that in the Latitude of Greenwich the meridian altitude of α Aquilæ is about 47° and that it arrives at the positive and negative maximum of parallax in the middle of Winter and in the height of Summer respectively, whereby a considerable uncertainty exists as to the amount of Refraction; in the case of the Madras Observations however, the meridian altitude being 85° and the variation of temperature at the times of the Star arriving at the + and — maximum amounting to little or nothing, no such uncertainty exists. With regard to error of observation the above speak so well for themselves that it is unnecessary for me to offer any further remarks.

* From a few very accordant Transit Observations the Parallax of α Aquilæ comes out $0'',49$, or the diameter of the Earth's orbit viewed from α Aquilæ = $0'',98$: these it will be as well to reserve for a future opportunity when a greater number of observations shall have been made.

PLACES OF THE FIXED STARS.

At the commencement of my Superintendence of the Madras Observatory in 1830, I selected for observation a Catalogue of about 1200 of the brightest Stars, from the Catalogue of 2881 given in the 2d Volume of the Memoirs of the Royal Astronomical Society, and set to work, intending to make at least five Observations of each Star: towards the end of 1831, finding that the greater part of this Catalogue was then already completed, I determined to extend my observations to the remaining Stars of the Society's Catalogue, and to devote the Instruments during the years 1832 and 1833 solely to this purpose; the result of the three years observation are given in the pages which follow reduced to January 1, 1832. It may at first sight appear superfluous that the result of the observations for 1831 which have already been given in Vol. I. should again appear in the present work; but several of the Stars observed in 1831 having been again observed in 1832 and 1833, it became necessary to state the former results in order to obtain the mean of *all* the observations; added to which, the peculiar circumstances to which the Transit Instrument has been subject (by reason of the very rapid and unequal wear of the pivots, and the meridian marks having undergone a change of position), renders it desirable that the nature of the agreement between the observations of one year and another should be distinctly pointed out.

It will be noticed that I have retained *all the names*, and consequently the same *numbers*, as given in the Society's Catalogue, notwithstanding that from twenty to thirty Stars (from being situated near the South Pole) are invisible at Madras, and that about double of that number have not been observed at either the Transit or the Mural Circle; my reason for so doing was for the sake of uniformity and facility of reference, and to allow me to fill up the blanks with a pen from the observations of 1834 and 1835.

The magnitudes and Annual Precessions* are copied from the Society's Catalogue: the *Greenwich place* is derived from the Catalogue of 720 Stars for 1830; in which the place of the equinox is assumed Dr. Maskelyne $+ 0^{\circ}, 20$, and it is from this point which the places in this Catalogue are likewise

+ Where an asterisk is attached to the Annual Precession it denotes, that the proper motion exceeds 0,5s. of space (according to M. Piazzini) and that it is included with the precession.

RESULT OF OBSERVATIONS IN 1832 AND 1833.

reckoned. Under the head "No. 1831", "No. 1832", &c. is found the number of observations made in each year, and the corresponding mean result on the supposition that the pivots remained unaltered during the three years; to make the requisite correction, we must have recourse to the table at Page 8 and proceed as follows—thus for α Cassiopeæ N. P. D. $45^{\circ} 34'$ which was observed at the commencement of 1832 and 1833, we find :

From Observa- tions in	Mean Place Ja- nuary 1, 1832.			Correc- tion.	No. of Obs.		
	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>			<i>s.</i>
1831.....	0	31	1,42	+ 0,00	= 1,42	× 12	= 17,04
1832.....	0	0	1,24	+ 0,04	= 1,28	× 20	= 25 60
1833.....	0	0	1,09	+ 0,09	= 1,18	× 28	= 33,04
					Sum	60	75,68
<hr/>							
Sum	75 68						
No. of Observ.	= 60			= 1",26			

The place thus deduced is set down in column "Mean", and compared with the Greenwich, and the Astronomical Society's Catalogue.

The column "Mean N. P. D." is derived from the three preceding columns in the usual way with reference to the number of observations; the Greenwich N. P. D. is derived from the Catalogue of 720 Stars for 1830, increased by two years precession, and reduced by the table Vol. I. Pages 62 and 147, in order to render the results which were computed by Bradley's table of Refractions, in terms of Atkinson's: this Catalogue rests upon the supposition that the Latitude of the Greenwich Royal Observatory deduced from Bradley's table of Refraction = $51^{\circ} 28' 39''.00$.



A

GENERAL CATALOGUE

OF THE

PRINCIPAL FIXED STARS

FROM

OBSERVATIONS AT THE MADRAS OBSERVATORY

IN THE YEARS 1831, 1832 AND 1833,

COMPARED WITH

THE GREENWICH, AND ASTRONOMICAL SOCIETY'S CATALOGUE.



Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832			Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831			No. 1832					Green.	A. S.	
1	7	Ceti	2	s. 6,82	5	s. 6,79		s. h. m. s.					
2	2.3	11 Cassiop. β	6	15,55				0 0 6,80		6,45			
3	6	87 Pegasi μ						0 0 15,55	15,71	14,73	-0,16	+0,35	+3,068
4	6	AppSculp κ^1	1	46,56		5 23,10		0 0 23,10		22,46		+0,82	3,124*
5	4	Phœnicis ϵ	6	51,81		2 46,68	4 46,68	0 0 46,64		46,07		+0,64	3,069
								0 0 51,81		51,51		+0,57	3,066
												+0,30	3,063
6	7	Piscium											
7	6	34 Piscium E^1					5 19,05	0 1 19,05		18,63		+0,42	3,068
8	5	22 Androm B	5	37,04			6 24,70	0 1 24,70		23,93		+0,77	3,069
9	6.7	Ceti						0 1 37,04		36,98		+0,06	3,077
10	5	Octantis γ^3				5 42,92		0 1 42,92		42,54		+0,38	3,067
								Invisible		10,01			2,967
11	6	6 Ceti f				4 42,72				42,05		+0,67	3,064
12	5.6	AppSculp κ^2	6	1,77				0 2 42,72		1,65		+0,12	3,059
13	2.3	88 Pegasi γ	12	35,66		24 35,69	16 35,74	0 4 35,69	35,71	35,51	-0,02	+0,18	3,075
14	6	89 Pegasi κ	2	55,09		3 55,37		0 5 55,26		54,95		+0,31	3,080
15	5.6	7 Ceti h				5 6,26		0 6 6,26		5,86		+0,40	3,055
16	6	35 Piscium B											
17	6.7	36 Piscium				5 20,02		0 6 20,02		19,60		+0,42	3,073
18	5	24 Androm θ	6	20,26		5 56,61		0 7 56,61		55,85		+0,76	3,074
19	6.7	33 Piscium	6	10,31				0 8 20,26		19,48		+0,78	3,105
20	4	8 Ceti i	6	52,14		5 52,16	2 52,22	0 9 10,31	52,15	9,89		+0,42	3,069
								0 10 52,16		51,75	+0,01	+0,41	3,057
21	5	Tucanæ ζ	6	15,80									
22	6	40 Piscium	2	16,03		5 15,02		0 11 15,80		12,83		+2,97	2,923
23	5.6	41 Piscium d	4	57,47		7 57,66	5 57,58	0 11 15,95		15,22		+0,73	3,086
24	6	Ap. Sculp i				6 4,26		0 11 57,59	57,60	57,82	-0,01	-0,23	3,077
25	6	9 Ceti	6	15,10				0 13 4,25		4,00		+0,25	3,025
								0 14 15,10		15,22		-0,12	3,049
26	6.7	Ceti	1	54,79		5 54,88	2 55,07	0 15 54,91		54,67		+0,24	3,063
27	3	Hydri β						Invisible		37,97			2,606
28	6	44 Piscium t	7	47,63				0 16 47,63		47,19		+0,44	3,070
29	6	45 Piscium				6 2,68		0 17 2,68		2,01		+0,67	3,080
30	5	Phœnicis κ	5	55,61				0 17 55,61		54,29		+1,32	2,966
31	2	Phœnicis κ	6	57,86		11 57,84		0 17 57,84		57,21		+0,63	2,970
32	6	10 Ceti				5 0,78	4 0,75	0 18 0,77		0,40		+0,37	3,066
33	6	47 Piscium				3 18,05	3 18,26	0 19 18,15		17,76		+0,39	3,102
34	6	48 Piscium	6	29,83				0 19 29,83		28,96		+0,87	3,099
35	6	28 Androm	3	16,42		2 16,60		0 21 16,51		15,95		+0,56	3,136
36	6	Ceti											
37	6	12 Ceti γ				6 21,04		0 21 21,04		20,23		+0,81	3,033
38	6	Ceti				5 28,17	2 28,20	0 21 28,18		27,77		+0,41	3,057
39	5	14 Cassiopeæ λ	6	32,86		6 58,44		0 21 58,44		58,39		+0,05	3,009
40	5	Phœnicis λ^1	6	17,64			2 32,67	0 22 32,83		32,00		+0,83	3,245
								0 23 17,64		16,68		+0,96	2,909
41	4	15 Cassiopeæ κ	5	30,89									
42	6.7	51 Piscium						0 23 30,89	30,79	29,80	+0,10	+1,09	3,324
43	6	52 Piscium				5 44,17		0 23 44,17		43,80		+0,37	3,083
44	4	Tucanæ β^1	6	48,36		5 47,94		0 23 47,94		47,36		+0,58	3,116
45	4	Tucanæ β^2						0 23 48,36		48,41		-0,05	2,786
						3 49,35		0 23 49,22		48,77		+0,45	2,786

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession
	No. 1831	No. 1832	No. 1833				Green.	A. S. C.	
1	—	—	4 9 25,31	93 9 25,31	—	9 25,79	—	0,48	—20,043
2	5 46 37,06	4 46 36,52	—	31 46 36,82	46 37,91	46 39,46	—1,09	—	2,64 20,043
3	—	—	4 43 16,97	72 43 16,97	—	43 19,12	—	2,15	20,043
4	—	—	5 55 20,45	118 55 20,45	—	55 23,01	—	2,56	20,043
5	5 40 24,30	—	—	136 40 24,30	—	40 25,62	—	1,32	20,042
6	—	—	5 29 43,17	93 29 43,17	—	29 45,10	—	1,93	20,042
7	—	—	5 47 25,89	79 47 25,89	—	47 19,22	+	6,67	20,042
8	5 51 50,12	—	—	44 51 50,12	—	51 46,46	+	3,66	20,042
9	2 10 55,69	4 10 55,94	—	96 10 55,86	—	10 55,20	+	0,66	20,042
10	—	—	—	173 —	—	9 29,62	—	—	20,042
11	4 23 23,42	1 23 24,39	—	106 23 23,61	—	23 27,96	—	4,35	20,041
12	—	3 44 4,62	3 44 4,39	118 44 4,51	—	44 8,62	—	4,11	20,041
13	22 45 3,67	8 45 2,98	—	75 45 3,49	45 2,93	45 1,81	+0,56	+	1,68 20,039
14	5 43 40,51	—	—	70 43 40,51	—	43 35,11	+	5,40	20,036
15	2 51 51,97	4 51 53,75	—	109 51 53,16	—	51 48,51	+	4,65	20,036
16	—	5 7 45,44	—	82 6 45,44	—	6 41,81	+	3,63	20,035
17	3 41 33,71	2 41 33,44	—	82 41 33,60	—	41 32,31	+	1,29	20,031
18	4 15 5,59	9 15 5,67	—	52 15 5,63	—	15 5,23	+	0,40	20,030
19	5 14 36,35	—	—	89 14 36,35	—	14 44,52	—	8,17	20,027
20	5 45 23,44	6 45 24,96	—	99 45 24,27	45 20,55	45 17,08	+3,72	+	7,19 20,021
21	5 51 45,54	5 51 46,99	—	155 51 46,27	—	53 47,78	+	121,51	20,019
22	5 40 57,20	—	—	74 40 57,20	—	40 52,59	+	4,61	20,019
23	6 44 33,38	1 44 32,92	—	82 44 33,31	44 36,50	44 33,93	—3,19	—	0,62 20,016
24	—	5 55 42,09	—	119 54 42,09	—	54 38,51	+	3,58	20,011
25	3 8 36,53	2 8 38,37	—	103 8 37,27	—	8 38,53	—	1,26	20,004
26	5 8 52,53	1 8 51,07	—	93 8 52,29	—	8 56,48	—	4,19	19,995
27	—	—	—	168 —	—	12 1,02	—	—	19,999
28	—	5 59 26,90	—	88 59 26,90	—	59 25,11	+	1,79	19,990
29	—	5 14 16,88	—	83 14 16,88	—	14 15,08	+	1,80	19,988
30	5 36 46,74	5 36 48,41	—	134 36 47,57	—	36 40,38	+	7,19	19,982
31	8 13 5,03	5 13 5,57	—	133 13 5,30	—	12 56,19	+	9,11	19,982
32	5 58 50,28	—	—	90 58 50,29	—	58 47,37	+	2,92	19,981
33	8 2 12,96	3 2 14,83	—	73 2 13,47	—	2 14,08	—	0,61	19,972
34	—	5 29 5,07	—	74 29 5,07	—	29 1,94	+	3,13	19,971
35	—	5 10 30,50	—	61 10 30,50	—	10 32,62	—	2,12	19,957
36	—	2 47 33,21	3 47 32,22	105 47 32,62	—	47 32,67	—	0,05	19,957
37	—	—	4 53 15,65	94 53 15,65	—	53 10,85	+	4,80	19,956
38	—	2 43 7,23	3 43 6,52	114 43 6,80	—	43 4,93	+	1,87	19,951
39	5 24 21,52	5 24 22,17	—	36 24 21,85	—	24 11,86	+	9,99	19,947
40	5 44 1,60	5 44 2,45	—	139 44 2,02	—	43 6,42	+	55,60	19,940
41	5 59 44,70	1 59 45,63	6 59 43,40	27 59 44,12	59 48,44	59 49,77	—4,32	—	5,65 19,938
42	4 58 20,66	—	—	83 58 20,66	—	58 19,91	+	0,75	19,936
43	—	2 37 55,06	3 37 55,32	70 37 55,22	—	37 50,85	+	4,37	19,936
44	—	—	—	153 —	—	53 18,49	—	—	19,935
45	—	—	—	153 —	—	53 40,49	—	—	19,935

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. (Greenb.) January 1, 1832			A. S. Catal.	Difference from		Annual Precep- tion
			No. 1831			No. 1832				Green	A. S.	
			s.	s.	s.	h.	m.	s.				
46	5	Tucanæ β^3	—	—	5 2,80	0 25 2,65	—	—	—	—	—	—
47	7	Piscium	—	5 28,99	—	0 25 28,99	—	28,47	+ 0,52	3,092	—	
48	7	Ceti	—	6 55,43	—	0 25 55,43	—	55,12	+ 0,31	3,054	—	
49	6.7	Piscium	—	5 13,29	—	0 26 13,30	—	13,04	+ 0,26	3,102	—	
50	6	13 Ceti	—	6 36,35	—	0 26 36,35	—	36,42	+ 0,03	3,056	—	
51	6.7	Piscium (120)	—	—	—	—	—	—	—	—	—	—
52	4	17 Cassiopeæ ζ	7 39 27	3 55,65	1 55,36	0 26 55,58	—	55,63	— 0,05	3,064	—	
53	4.5	29 Androm π	6 55,69	—	—	0 27 39,27	39,18	38,86	+ 0,00	+ 0,41	3,280	
54	6	53 Piscium	5 2,86	—	—	0 27 55,69	55,71	55,77	0,02	- 0,08	3,177	
55	6	Ceti	—	4 42,63	—	0 28 2,86	—	2,16	+ 0,70	3,169	—	
56	7	Piscium	—	—	—	0 28 42,62	—	42,05	+ 0,57	2,928	—	
57	7	15 Ceti	—	5 51,86	—	0 28 51,86	—	51,19	+ 0,67	3,071	—	
58	4	30 Androm ϵ	6 41,73	6 29,44	—	0 29 29,44	—	28,76	+ 0,68	3,064	—	
59	3	31 Androm δ	6 21,74	—	—	0 29 41,73	41,81	41,24	- 0,08	+ 0,49	3,161	
60	3	18 Cassiopeæ α	12 1,42	20 1,24	28 1,09	0 30 21,74	21,81	21,32	- 0,07	+ 0,42	3,169	
61	6	55 Piscium	—	—	—	0 31 1,21	1,26	0,76	0,05	+ 0,45	3,330	
62	6.7	Ceti	5 9,38	5 5,79	—	0 31 5,79	—	5,10	+ 0,39	3,133	—	
63	5	Phœnicis μ	6 22,30	—	—	0 32 9,38	—	8,89	+ 0,49	3,051	—	
64	6	Ceti	1 45,76	4 45,55	—	0 33 22,30	—	22,78	+ 0,02	2,861	—	
65	5	20 Cassiopeæ π	6 12,38	—	—	0 33 45,59	—	33,45,34	+ 0,25	3,024	—	
66	6	Ceti	—	—	—	0 34 12,38	—	11,52	+ 0,86	3,274	—	
67	2.3	16 Ceti β	7 9,18	5 18,70	—	0 34 18,70	—	18,16	+ 0,24	2,991	—	
68	5	17 Ceti ϕ^1	5 42,82	8 9,42	8 9,26	0 35 9,29	9,27	9,23	+ 0,02	+ 0,06	2,988	
69	5	Phœnicis η	4 46,86	—	—	0 35 42,82	—	42,03	+ 0,19	3,026	—	
70	6	Ceti	—	5 25,50	—	0 35 46,86	—	45,80	+ 1,00	2,731	—	
71	6	Ceti	—	—	—	0 36 25,50	—	25,32	+ 0,18	2,979	—	
72	6	18 Ceti	—	5 51,34	—	0 36 51,34	—	50,92	+ 0,42	3,047	—	
73	6.7	57 Piscium	—	7 2,50	—	0 37 2,50	—	1,95	+ 0,55	3,013	—	
74	6	58 Piscium	—	5 45,99	—	0 37 45,99	—	46,06	- 0,07	3,125	—	
75	6	59 Piscium	—	5 16,17	—	0 38 16,17	—	15,29	+ 0,88	3,111	—	
76	4	34 Androm ζ	6 26,94	—	—	0 38 21,78	—	21,28	+ 0,50	3,143	—	
77	6	60 Piscium	—	—	—	0 38 26,94	27,01	27,01	- 0,07	- 0,07	3,164	
78	4	24 Cassiopeæ η	4 59,32	4 42,79	—	0 38 42,79	—	41,87	+ 0,92	3,091	—	
79	6	Piscium	—	2 59,19	—	0 38 59,31	59,16	58,27	+ 0,15	+ 1,04	3,583*	
80	6	62 Piscium	—	5 34,84	—	0 39 34,84	—	32,81	+ 2,03	3,086	—	
81	5	63 Piscium δ	6 58,51	—	5 35,00	0 39 35,04	—	34,36	+ 0,68	3,094	—	
82	5.6	64 Piscium γ	—	—	3 58,65	0 39 58,56	—	58,30	+ 0,26	3,095	—	
83	4	35 Androm ν	5 34,79	5 9,73	—	0 40 9,74	—	9,49	+ 0,25	3,135	—	
84	6	65 Piscium ϵ	5 52,82	1 35,08	4 34,63	0 40 34,78	34,84	34,25	- 0,06	+ 0,53	3,266	
85	6	19 Ceti ϕ^2	—	7 42,94	—	0 40 52,82	—	52,14	+ 0,68	3,187	—	
86	5	20 Ceti m	7 25,64	—	—	0 41 42,94	—	42,81	+ 0,13	3,019	—	
87	6	66 Piscium	—	8 25,73	2 25,74	0 44 25,69	25,68	25,72	+ 0,01	- 0,03	3,039	
88	6	36 Androm	6 59,24	6 42,44	—	0 45 42,45	—	41,80	+ 0,65	3,153	—	
89	3	27 Cassiopeæ γ	5 37,85	1 59,33	—	0 45 59,26	—	58,94	+ 0,32	3,179	—	
90	6	67 Piscium k	2 57,31	12 37,65	8 37,61	0 46 37,67	37,83	36,79	- 0,16	+ 0,88	3,581	
				2 57,35	—	0 46 57,33	—	56,97	+ 0,36	3,202	—	

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precessi- on.
	No.		No.		No.					Green.	A. S. C.	
	1831	1832	1832	1833	1833	1833						
46	4 57 22,87	5 57 24,16				153 57 23,65		57 27,57		—	3,92	—19,924
47	—	2 37 18,60	3 37 18,69			80 37 18,64		37 11,70		+	6,94	19,920
48	—	4 28 29,46	2 28 31,23			95 28 30,07		28 26,54		+	3,53	19,916
49	3 33 9,42	5 33 10,35				77 33 10,00		33 11,52		—	1,52	19,913
50	—	1 31 10,22	5 3 8,57			94 31 8,84		31 5,37		+	3,47	19,909
51	—	5 25 44,95				91 25 44,95		25 43,05		+	1,90	19,905
52	5 1 45,03	6 1 44,51	4 1 44,11			37 1 44,57	1 43,57	1 42,95	+1,00	+	1,62	19,898
53	6 12 24,53	—	—			57 12 24,53	12 23,44	12 21,80	+1,09	+	2,73	19,895
54	5 41 37,56	—	—			75 41 37,56		41 35,06		+	2,50	19,894
55	—	1 41 35,15	5 41 34,67			115 41 34,75		41 33,43		+	1,32	19,887
56	—	—	5 47 14,80			87 47 14,80		47 10,98		+	3,82	19,885
57	—	4 25 40,87	—			91 25 40,87		25 40,38		+	0,49	19,878
58	4 36 5,22	—	3 36 1,00			61 36 3,41	36 4,10	36 5,11	—0,69	—	1,70	19,876
59	5 3 37,56	6 3 38,47	—			60 3 38,06	3 32,69	3 31,53	+5,37	+	6,53	19,868
60	16 23 8,74	15 23 8,77	—			34 23 8,76	23 7,54	23 7,49	+1,22	+	1,27	19,861
61	5 29 3,63	—	—			69 29 3,63		29 2,08		+	1,55	19,860
62	4 16 31,72	1 16 32,32	—			95 16 31,84		16 27,58		+	4,26	19,847
63	5 0 28,80	—	—			137 0 28,80		0 18,30		+	10,50	19,832
64	4 43 30,63	1 43 32,11	—			102 43 30,92		43 33,41		—	2,49	19,827
65	5 53 44,03	4 53 42,52	—			43 53 43,36		53 46,03		—	2,67	19,821
66	—	4 6 55,34	—			111 6 55,34		6 55,43		—	0,09	19,820
67	5 54 33,23	5 54 31,09	—			108 54 33,66	54 34,93	54 35,21	—1,27	—	1,55	19,809
68	4 31 30,12	2 31 30,60	—			101 31 30,48		31 33,57		—	3,09	19,801
69	5 23 3,42	—	—			148 23 3,42		23 3,54		—	0,12	19,800
70	3 55 46,30	2 55 51,90	—			112 55 48,54		55 51,83		—	3,29	19,791
71	—	5 33 6,38	—			95 33 6,38		33 4,43		+	1,95	19,786
72	—	4 47 27,17	—			103 47 27,17		47 32,26		—	5,09	19,783
73	—	4 26 32,52	—			75 26 32,52		26 27,39		+	5,13	19,773
74	—	—	5 56 35,05			78 56 35,05		56 33,65		+	1,40	19,766
75	1 20 26,00	—	4 20 26,33			71 20 26,26		20 22,95		+	3,31	19,764
76	5 38 50,85	—	7 38 52,13			66 38 51,59	38 52,76	38 52,83	—1,17	—	1,24	19,763
77	4 10 38,32	—	—			84 10 38,32		10 33,68		+	4,64	19,759
78	5 4 39,71	—	—			33 4 39,71	4 42,23	4 40,69	—2,52	—	0,98	19,755*
79	—	5 35 8,20	—			85 35 8,20		35 27,41		—	—	19,747
80	—	—	5 37 4,41			83 37 4,41		37 7,54		—	3,13	19,746
81	5 19 47,91	5 19 46,83	—			83 19 47,37		19 46,61		+	0,76	19,740
82	—	5 58 1,31	—			73 58 1,34		58 1,48		—	0,14	19,737
83	5 50 19,58	5 50 18,25	—			49 50 18,91	50 15,05	50 17,29	+3,86	+	1,62	19,731
84	5 12 19,83	—	—			63 12 19,88		12 22,67		—	2,70	19,726
85	—	5 33 1,33	—			101 33 1,33		33 1,64		—	0,31	19,713
86	5 3 28,93	5 3 26,03	—			92 3 27,48	3 29,15	3 28,87	—1,65	—	1,39	19,669
87	5 43 25,11	—	—			71 43 25,11		43 27,36		—	2,25	19,647
88	5 16 56,54	—	—			67 16 56,54		16 57,56		—	1,02	19,642
89	9 11 45,60	5 11 44,85	9 11 46,42			30 11 45,76	11 42,48	11 37,48	+3,28	+	8,28	19,632
90	—	4 42 6,73	—			63 42 6,73		42 7,39		—	0,66	19,625

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832			Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831	No. 1832	No. 1833						Green.	A. S.	
						h.	m.	s.					
91	5	Cephei	4 10,56			0 47 10,56			s.	s.	s.	s.	
92	6	Ceti		5 13,26		0 47 13,26				4,94		+5,62	+6,396
93	7	Piscium		5 20,89		0 47 20,90				12,81		+0,45	3,028
94	4	37 Androm μ	5 27,42		3 26,93	0 47 27,26			27,48	20,51		+0,39	3,131
95	6	22 Ceti ϕ^3		6 36,21	1 36,06	0 47 36,18				27,17	-0,22	+0,09	3,359*
										35,71		+3,47	3,069
96	5	38 Androm η	6 15,26	1 15,14		0 48 15,19						+0,81	3,183
97	6	68 Piscium $-h$		4 45,88		0 48 45,90				14,35		+0,79	3,218
98	6.7	Piscium		5 6,25		0 49 6,26				45,11		+0,38	3,132
99	6	23 Ceti ϕ^4	1 19,22	5 19,23		0 50 19,22				5,88		+0,27	3,005
100	5	App Sculp α	6 20,31			0 50 30,31				18,95		-0,05	2,898
										30,36			
101	6.7	Piscium		5 4,62		0 51 4,62						-2,41	3,097
102	7	Piscium	3 45,77			0 53 45,77				7,03		+0,56	3,141
103	4	71 Piscium ϵ	6 13,96	8 13,85	4 13,85	0 54 13,90			13,96	45,21	-0,06	-0,10	3,106
104	6	25 Ceti		5 32,96		0 54 32,96				14,00		+0,46	3,036
105	6.7	26 Ceti		6 10,71		0 55 10,71				32,50		+0,60	3,071
										10,11			
106	6.7	73 Piscium		5 10,83		0 56 10,83						+0,19	3,095
107	6	72 Piscium σ		3 13,99	3 14,12	0 56 14,08				10,64		+0,78	3,149
108	5.6	74 Piscium ψ^1	2 41,41	1 41,86		0 56 41,57				13,30		+0,26	3,191
109	6	27 Ceti	4 12,06			0 57 12,06				41,31		+0,29	3,005
110	6	28 Ceti	8 20,57			0 57 39,57				11,77		+0,68	3,005
										39,40			
111	6.7	75 Piscium $-H$		5 43,99		0 57 43,97						+0,23	3,139
112	3.4	Phœnicis β	6 34,66			0 58 34,66				43,74		+0,16	2,698
113	6	79 Piscium ψ^2			3 57,39	0 58 57,42				34,50		+0,54	3,190
114	6	30 Ceti			3 19,31	0 59 19,30				56,88		+0,18	3,004
115	2.3	1 Ursæ Min. α				1 0 2,19			3,14	19,12	-0,95	-0,38	15,430*
										1,81			
116	5	80 Piscium ϵ	2 43,54		2 43,20	0 59 43,42			43,45	43,51	-0,03	-0,69	3,097
117	5	42 Androm ϕ			2 47,08	0 59 47,18				46,93		+0,22	3,428
118	3.4	31 Ceti η			3 8,37	1 0 8,37			8,46	8,63	-0,09	-0,26	3,000
119	2	43 Androm β			3 21,16	1 0 21,23			20,96	20,28	+0,27	+0,95	3,309
120	6	81 Piscium ψ^3			3 51,26	1 0 51,25				50,75		+0,54	3,187
121	4.5	33 Cassiopeæ θ			3 55,11	1 1 55,24			55,19	55,20	+0,05	+0,04	3,555
122	6	Piscium			2 17,75	1 1 17,77				16,98		+0,79	3,161
123	5	Phœnicis ζ			2 18,29	1 1 18,48				18,08		+0,10	2,542
124	6	32 Ceti			2 46,21	1 1 46,20				46,20		0,00	3,007
125	6	33 Ceti		1 55,44	2 55,23	1 1 55,30				54,74		+0,51	3,078
126	6	83 Piscium τ			5 25,98	1 2 26,03				24,93		+1,10	3,268
127	5	84 Piscium α			3 26,31	1 2 26,34				26,54		-0,20	3,200
128	7	Piscium			3 41,17	1 2 41,19				41,36		-0,17	3,128
129	6.7	34 Ceti			5 11,09	1 3 11,09				10,68		+0,41	3,048
130	6.7	35 Ceti	2 54,16	3 54,19		1 3 54,18				53,87		+0,31	3,078
131	6	85 Piscium ϕ		5 38,52		1 4 38,54				38,41		-0,13	3,231
132	6	86 Piscium ψ^1		5 57,82		1 4 57,82			57,79	57,76	+0,03	+0,06	3,112
133	6.7	87 Piscium		4 12,93		1 5 12,93				12,13		+0,86	3,170
134	6	37 Ceti δ			3 56,53	1 5 56,53				55,92		+0,61	3,009
135	6.7	88 Piscium	6 58,57			1 5 58,57				57,98		+0,59	3,106

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precession	
	No. 1831	No. 1832	No. 1833				Green.	A. S. C.		
91	5 38 58,35	—	—	4 38 58,35	—	39 0,28	—	1,93	—19,625	
92	—	4 15 22,84	—	98 15 22,84	—	15 23,80	—	0,96	19,621	
93	—	4 57 34,60	1 57 33,97	76 57 34,47	—	57 33,65	+	0,82	19,618	
94	5 24 47,97	5 24 46,98	5 24 49,89	52 24 48,28	24 46,29	24 49,12	+1,99	—	0,84	19,617
95	—	5 11 40,81	—	102 11 40,81	—	10 39,72	+	1,09	19,614	
96	5 29 23,91	5 30 22,06	—	67 29 22,98	—	29 25,67	—	2,69	19,602	
97	4 55 2,58	—	—	61 55 2,58	—	55 3,90	—	1,32	19,593	
98	—	5 12 49,41	—	77 12 49,41	—	12 49,17	+	0,24	19,586	
99	—	5 17 17,50	—	102 17 17,50	—	17 17,87	—	0,37	19,563	
100	5 16 2,70	5 16 2,12	—	120 16 2,41	—	16 0,13	+	2,28	19,560	
101	2 25 30,55	3 25 30,31	—	84 25 30,44	—	25 27,97	+	2,47	19,548	
102	5 5 1,44	—	—	82 5 1,44	—	4 58,62	+	2,82	19,496	
103	7 0 55,88	6 0 55,27	5 0 54,95	83 0 55,42	0 57,81	0 57,83	—2,39	—	2,41	19,486
104	2 44 13,03	3 44 12,26	—	95 41 12,57	—	41 8,66	+	3,91	19,480	
105	—	5 32 10,96	—	89 32 10,96	—	32 7,92	+	3,04	19,467	
106	—	5 14 48,99	2 14 47,68	85 14 48,62	—	14 42,79	+	5,82	19,446	
107	—	5 57 32,92	—	75 57 32,92	—	57 31,39	+	1,53	19,445	
108	5 25 41,23	—	—	69 25 41,23	—	25 41,23	—	0,00	19,435	
109	—	5 51 47,54	—	100 51 47,54	—	52 43,68	+	3,86	19,424	
110	—	5 44 29,64	—	100 44 29,64	—	44 24,81	+	4,83	19,414	
111	—	1 56 46,03	4 56 43,60	77 56 44,08	—	56 46,01	—	1,93	19,412	
112	5 37 11,75	5 37 9,75	—	137 37 10,75	—	37 2,81	+	7,94	19,394	
113	—	4 9 24,62	—	70 9 24,62	—	9 19,22	+	5,40	19,386	
114	—	3 41 9,89	—	100 41 9,89	—	41 11,51	—	1,62	19,377	
115	10 35 12,17	11 35 12,57	3 35 12,94	1 35 12,44	35 12,60	35 12,20	—0,16	+	0,24	19,375
116	5 14 30,74	—	3 14 31,69	85 14 31,10	14 28,36	14 28,02	+2,74	+	3,08	19,368
117	5 30 19,22	—	—	43 39 19,22	—	39 22,03	—	2,81	19,367	
118	5 4 27,40	—	—	101 4 27,40	4 29,30	4 25,08	—1,90	+	2,32	19,359
119	5 16 22,94	2 16 22,30	—	55 16 22,76	16 19,41	16 17,61	+3,35	+	5,15	19,355
120	—	—	6 14 23,10	71 14 23,10	—	14 22,55	+	0,55	19,343	
121	4 44 47,01	1 44 47,33	—	35 44 47,07	44 46,75	44 48,41	+0,32	—	1,34	19,341
122	—	5 13 23,85	—	75 13 23,85	—	13 18,06	+	5,79	19,333	
123	—	—	4 8 43,27	146 8 43,27	—	8 31,30	+	11,97	19,332	
124	—	5 43 6,81	—	99 43 6,81	—	47 56,65	—	—	—	19,321
125	—	5 26 59,38	—	88 26 59,38	—	27 0,61	—	1,23	19,318	
126	—	5 48 17,42	—	60 48 17,42	—	48 13,60	+	3,82	19,306	
127	6 51 41,93	—	—	69 51 41,98	—	51 38,18	+	3,80	19,306	
128	—	4 36 13,89	—	80 36 13,89	—	36 10,81	+	3,08	19,300	
129	3 8 38,31	—	2 8 40,17	93 8 39,06	—	8 42,26	—	2,20	19,288	
130	—	4 25 1,65	—	88 25 1,65	—	24 58,94	+	2,71	19,271	
131	—	—	5 18 26,71	66 18 26,71	—	18 28,67	—	1,96	19,253	
132	1 18 53,12	—	5 18 53,73	83 18 53,63	18 54,82	18 53,38	—1,19	+	0,25	19,245
133	—	—	5 45 30,31	74 45 30,31	—	45 28,26	+	2,05	19,240	
134	5 49 35,96	—	—	98 49 35,96	—	49 36,27	—	0,31	19,221	
135	—	5 52 42,15	—	83 53 42,15	—	53 39,62	+	2,53	19,221	

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832			Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831	No. 1832	No. 1833	h. m. s.	s.	s.			Green	A. S.	
136	6	38 Ceti	7 14,92			1 6 14,92			s.	s.	s.	s.	
137	6	39 Ceti	1 4,78		4 4,87	1 8 4,85		14,70			+0,22	+3,056	
138	6	40 Ceti		3 23,24	2 23,64	1 8 23,40		4,70			+0,15	3,045	
139	6	89 Piscium	f	5 8,51		1 9 8,51		23,29			+0,11	3,046	
140	5.6	90 Piscium	v	5 14,89		1 10 14,89		8,16			+0,35	3,087	
								14,82			+0,07	3,268	
141	6	42 Ceti	71	1 13,44	5 13,35	1 11 13,37		13,18			+0,19	3,058	
142	6	91 Piscium	l		5 51,05	1 11 51,07		51,17			-0,10	3,285	
143	5	46 Androm	ξ	6 29,10	1 29,04	1 12 29,09		28,54			+0,55	3,478	
144	7	Ceti			5 58,44	1 13 58,44		58,32			+0,12	3,074	
145	6.7	43 Ceti	72		5 59,78	1 13 59,78		59,41			+0,37	3,058	
146	4.5	36 Cassiopeae	ψ	6 10,30	2 10,44	1 14 10,39		10,45		9,43	-0,06	+0,96	4,079
147	3	37 Cassiopeae	δ	2 53,83	2 53,59	5 53,54	1 14 53,69			55,11	-1,12	4,833*	
148	6	44 Ceti			5 35,76		1 15 35,76			35,46	+0,30	3,000	
149	3	45 Ceti	θ1		6 37,84		1 15 37,84			37,55	+0,29	2,999	
150	5.6	93 Piscium	ρ1		6 12,74		1 17 12,76			12,40	+0,36	3,214	
151	5	Phœnicis		6 14,34			1 17 14,34			14,29	+0,05	2,665	
152	5	46 Ceti	c	6 21,62			1 17 21,62			21,40	+0,22	2,946	
153	6.7	94 Piscium	ρ2			5 38,16	1 17 38,18			37,87	+0,31	3,215	
154	6.7	Ceti			5 51,88		1 17 51,88			51,51	+0,37	3,058	
155	6	47 Ceti			5 34,39		1 17 34,38			34,97	-0,59	2,957	
156	7	95 Piscium			5 57,04		1 18 57,04			56,87	+0,17	3,103	
157	7	Piscium				5 22,97	1 18 22,99			22,32	+0,67	3,200	
158	7	Piscium				5 35,08	1 19 35,09			34,86	+0,23	3,124	
159	6.7	96 Piscium				5 17,49	1 20 17,50			16,91	+0,59	3,120	
160	6.7	97 Piscium			6 49,64		1 20 49,66			49,01	+0,65	3,213	
161	3	Phœnicis	χ	6 3,86			1 21 3,86			3,20	+0,66	2,619	
162	5	98 Piscium	μ	5 23,52	1 23,32	7 23,43	1 21 23,46	23,32		23,09	+0,14	+0,37	3,111
163	6	48 Ceti			5 32,63		1 21 32,62			32,55	+0,07	2,875	
164	6	Ceti			5 46,73		1 21 46,71						2,836
165	6	Ap. Sculp			5 27,84		1 22 27,82			27,02	+0,80	2,828	
166	4	99 Piscium	η	6 30,46	6 30,40		1 22 30,44	30,35		30,27	+0,09	+0,17	3,189
167	4	Phœnicis	δ	5 15,00			1 24 15,00			14,69	+0,31	2,497	
168	7	Piscium			6 30,35		1 24 30,35			30,11	+0,24	3,130	
169	6	Piscium			5 44,65		1 25 44,67			43,86	+0,81	3,223	
170	7	100 Piscium			5 56,91		1 25 56,92			56,41	+0,51	3,169	
171	5.6	49 Ceti			5 25,66		1 26 25,64			24,72	+0,92	2,922	
172	6	101 Piscium			5 48,19		1 26 48,21			47,45	+0,76	3,189	
173	6	Piscium			3 50,36	3 50,51	1 26 50,45			49,82	+0,63	3,215	
174	5	50 Androm	v	6 58,17	1 57,55		1 26 58,08			57,50	+0,58	3,491	
175	6.7	Piscium			5 15,99		1 27 16,00			15,76	+0,24	3,127	
176	3.4	51 Androm	R2	6 43,35			1 27 43,35	43,28		42,93	+0,07	+0,42	3,617
177	6	50 Ceti				6 47,50	1 27 47,49			46,82	+0,67	2,922	
178	6	102 Piscium	π	4 12,19		6 12,17	1 28 12,19	12,18		11,96	+0,01	+0,29	3,168
179	6	Ceti			5 14,20		1 29 14,19			13,08	+1,11	2,976	
180	6.7	104 Piscium				5 16,05	1 30 16,06			16,30	-0,24	3,190	

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from			Annual Precessi- on.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832			Green ^h Catal.	A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831		No. 1832	No. 1833					Green.	A. S.	
			s.	s.	s.	h.	m.	s.				s.	s.
181	6	105 Piscium		4 37,79	5 37,78	1 30	37,81	37,71	37,67	+0,10	+0,14	+ 3,211	
182	1	Eridani α	5 27,19	3 27,31	3 27,39	1 31	27,23		26,51		+0,72	2,235	
183	7	Piscium		5 44,73		1 31	44,74		43,94		+0,80	3,140	
184	5	106 Piscium γ	6 41,57	6 41,90	6 41,90	1 32	41,79	41,86	41,60	-0,07	+0,19	3,111	
185	5	54 Androm	5 10,53			1 33	10,53		10,36		+0,17	3,693	
186	5.6	107 Piscium	4 23,42	5 23,56		1 33	23,51		23,20		+0,31	3,255	
187	6.7	109 Piscium		6 46,12		1 35	46,14		45,72		+0,42	3,257	
188	3.4	52 Ceti τ	5 15,98	7 16,06		1 36	16,01	16,01	15,64	0,00	+0,37	2,779*	
189	5	110 Piscium σ	6 31,85	4 31,81	3 31,93	1 36	31,86	31,82	31,70	+0,04	+0,16	3,148	
190	6	Ceti		5 33,71		1 37	33,71		33,27		+0,44	3,004	
191	5	App Sculp ϵ	6 46,78	1 46,78		1 37	46,78		46,01		+0,77	2,800	
192	6.7	4 Arietis		5 4,99		1 39	5,01		4,81		+0,20	3,230	
193	6	Arietis		5 52,60		1 40	52,62		52,13		+0,49	3,291	
194	5	53 Ceti χ^2	5 20,30	1 20,35		1 41	20,31		19,40		+0,91	2,952	
195	6	54 Ceti	1 57,53	5 57,89		1 41	57,85		56,76		+1,09	3,171	
196	3.4	45 Cassiopeae ϵ	6 24,11			1 42	24,11	23,49	23,47	+0,62	+0,64	4,191	
197	3	55 Ceti ζ	6 10,25	1 10,46		1 43	10,28	10,35	9,82	-0,07	+0,46	2,953	
198	3.4	2 Trianguli α	6 31,59	1 31,48	5 31,50	1 43	31,56	31,52	31,23	+0,04	+0,33	3,388	
199	4.5	5 Arietis γ^1	5 19,56	3 19,56	4 19,65	1 44	19,60	19,58	19,51	+0,02	+0,09	3,264	
200	5.6	111 Piscium ξ		5 52,00		1 44	52,00		51,79		+0,21	3,092	
201	3	6 Arietis β		12 22,54	16 22,52	1 45	22,55	22,55	21,77	0,00	+0,78	3,283	
202	6	7 Arietis		5 29,93		1 46	29,95		29,45		+0,50	3,319	
203	7	Piscium		5 13,24		1 47	13,24		12,92		+0,32	3,079	
204	5	Phœnicis Φ	6 23,78			1 47	23,78		23,77		+0,01	2,499	
205	6	8 Arietis ι		6 11,23	4 11,25	1 48	11,26	11,24	11,16	+0,02	+0,10	3,253	
206	5	48 Cassiopeae	4 18,15			1 48	18,15		18,17		-0,02	4,744	
207	5.6	9 Arietis λ		5 35,05	1 35,01	1 48	35,06	34,98	35,17	+0,08	-0,11	3,324	
208	6	56 Ceti ν^1			5 48,23	1 48	48,21		47,30		+0,91	2,804	
209	4.5	50 Cassiopeae	4 15,21	2 14,79		1 49	15,13	15,46	14,23	-0,33	+0,90	4,908	
210	4	Eridani χ	6 25,12			1 49	25,12		23,86		+1,26	2,270	
211	6	Arietis			5 17,14	1 50	17,16		16,48		+0,68	3,296	
212	7	Piscium			5 26,91	1 50	26,93		26,50		+0,43	3,194	
213	4.5	Hydri η^2	2 41,32	2 41,17		1 50	41,19		40,73		+0,46	1,495	
214	7	Ceti		4 10,93		1 51	10,93		10,45		+0,48	3,125	
215	6	112 Piscium		3 25,44	2 25,71	1 51	25,55		25,20		+0,35	3,093	
216	6	57 Ceti ι		4 52,26		1 51	52,24		51,92		+0,32	2,819	
217	4.5	59 Ceti ν^2	6 5,50			1 52	5,50	5,36	4,99	+0,14	+0,51	2,816	
218	5	113 Piscium α	6 21,68	1 21,80	2 21,70	1 53	21,70	21,65	21,73	+0,05	-0,03	3,090	
219	3	Hydri α	3 28,77	2 28,65		1 53	28,69		28,87		-0,18	1,854	
220	3.4	57 Androm γ		7 37,11	2 37,06	1 53	37,12	37,10	36,71	+0,02	+0,41	3,630	
221	7	Arietis			6 0,78	1 54	0,80		0,31		+0,49	3,183	
222	6	Arietis Λ		2 30,66	3 30,93	1 54	30,84		30,33		+0,51	3,269	
223	6	60 Ceti		1 35,29	4 35,14	1 54	35,17		35,29		-0,12	3,060	
224	5	Phœnicis χ	6 57,98			1 54	57,98		58,34		-0,36	2,414	
225	6	12 Arietis π	1 10,96	4 10,95		1 57	10,96		10,43		+0,53	3,330	

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
181		"		"		"	74 26 58,70	26 58,50	26 55,71	+0,20	+	+18,499
182	7	5 30,61	6	5 30,27	3	5 30,75	148 5 30,49		5 35,18		—	18,471
183	3	5 37,89					82 5 37,89		5 38,18		—	18,462
184	5 21	59,47	4 21	58,03	5 21	58,14	85 21 58,58	21 55,67	21 55,29	+2,91	+	18,429
185	5 9	44,47					40 9 44,47		9 40,43		+	18,413
186	4 33	4,46	1 33	6,31			70 33 4,83		32 58,88		+	17,835*
187	3 45	31,92	2 45	33,16			70 45 32,42		45 29,66		+	18,322
188	5 49	27,29	5 49	27,23			106 49 27,26	49 29,75	49 24,77	—2,49	+	19,144*
189	5 41	26,30	5 41	25,94	7 41	25,71	81 41 25,95	41 26,67	41 25,66	—0,72	+	18,295
190			6 34	34,31			96 34 34,31		34 34,60		—	18,258
191	5 53	40,46	1 53	41,78			115 53 40,68		53 41,21		—	18,250
192	4 52	59,63			1 53	1,73	73 53 0,07		53 0,30		—	18,203
193	1 33	38,70	4 33	40,02			68 33 39,76		33 43,08		—	18,137
194	5 31	13,53	5 31	11,94			101 31 12,73		31 13,87		—	18,119
195	5 47	33,14					79 47 33,14		47 30,92		+	18,096
196	6 9	42,79			5 9	43,59	27 9 43,15	9 43,93	9 44,25	—0,78	—	18,081
197	5 10	4,07			5 10	5,31	101 10 4,69	10 6,40	10 9,49	—1,71	—	18,050
198	5 14	35,14	6 14	34,89	2 14	33,72	61 14 34,81	14 33,90	14 36,82	+0,91	—	18,037
199	2 31	58,67	3 31	58,71	1 31	59,56	71 31 58,73	32 0,83	31 55,20	—2,10	+	18,006
200	3 38	38,32	2 38	39,52			87 38 38,80		38 44,50		—	17,985
201	5 1	2,84	6 1	3,29	11 1	3,48	70 1 3,28	0 59,91	0 56,81	+3,37	+	17,966
202	2 14	57,21	4 14	57,90			67 14 57,67		14 57,09		+	17,922
203			5 59	10,15			88 59 10,45		59 14,57		—	17,893
204	5 19	21,76	2 19	21,48	2 19	23,86	133 19 22,16		19 25,90		—	17,885
205			1 0	19,80	7 0	18,94	73 0 18,99	0 21,66	0 21,64	—2,67	—	17,855
206	4 54	51,19					19 54 51,19		54 47,87		+	17,852
207	3 13	37,10	1 13	33,82	5 13	36,02	67 13 36,14	13 37,67	13 33,27	—1,53	+	17,839
208			2 20	57,52	3 20	58,33	113 20 58,01		21 1,82		—	17,830
209	5 23	48,34	1 23	47,19			18 23 48,14	23 49,41	23 50,50	—1,27	—	17,815
210	5 26	47,82	2 26	47,93			142 26 47,85		26 58,47		—	17,805
211	1 45	41,26	3 45	41,08			69 45 41,12		45 37,56		+	17,771
212					5 31	22,49	78 31 22,49		31 21,03		+	17,764
213	5 28	24,88					158 28 24,88		28 34,93		—	17,753
214					6 47	1,54	84 47 1,54		46 57,00		+	17,735
215			5 42	34,23			87 42 34,23		42 35,77		—	17,725
216	2 38	34,54	3 38	36,68			111 38 35,82		38 37,51		—	17,706*
217	4 53	41,09	3 53	40,63			111 53 40,89	53 51,98	53 38,09	—11,09	+	17,697
218	5 3	0,91	3 3	1,63	2 3	0,60	88 3 1,06	3 4,32	3 0,44	—3,26	+	17,645
219	4 23	18,88					152 23 18,88		23 9,83		+	17,638
220	5 28	47,23					48 28 47,23	28 40,93	28 50,74	—2,70	—	17,635
221			5 47	45,54			79 47 45,54		47 39,19		+	17,618
222			2 33	24,21	4 33	24,96	72 33 24,71		33 26,63		—	17,597
223					5 41	8,27	90 41 8,27		41 2,12		+	17,593
224	3 31	29,77	1 31	30,53			135 31 29,96		31 39,96		—	17,576
225			5 9	18,30			68 9 18,30		9 18,44		—	17,484

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832	Green ^h Catal.	A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831	No. 1832	No. 1833				Green.	A. S.	
			s.	s.	s.	h. m. s.	s.	s.	s.	s.	
226	6	Arietis		5 12,27		1 57 12,29		12,11		+0,18	+3,373
227	3	13 Arietis	10 43,13	5 43,18	46 43,22	1 57 43,22	43,17	42,80	+0,05	+0,42	3,342
228	4	4 Trianguli	6 34,35	5 34,40		1 59 34,39	34,34	34,49	+0,05	-0,10	3,520
229	5.6	14 Arietis	6 52,70			1 59 52,70		52,47		+0,23	3,381
230	6.7	62 Ceti	3 55,23	2 55,53		2 0 55,35		55,07		+0,28	3,108
231	6	15 Arietis		4 19,66	2 19,61	2 1 19,67		19,09		+0,57	3,296
232	6.7	64 Ceti		5 29,56		2 2 29,56		29,42		+0,14	3,161
233	5.6	6 Trianguli		5 38,74	1 38,98	2 2 38,81		38,53		+0,28	3,453
234	6	63 Ceti		6 4,50		2 3 4,50		3,71		+0,79	3,037
235	6	17 Arietis	3 24,71	2 24,61		2 3 24,68		24,11		+0,57	3,323
236	7	19 Arietis	7 54,30		7 54,36	2 3 54,34	54,24	53,62	+0,10	+0,72	3,245
237	5	65 Ceti	7 6,40	6 6,43	7 6,48	2 4 6,44	6,47	5,84	-0,03	+0,60	3,165
238	6	67 Ceti		5 36,62		2 8 36,62		36,18		+0,44	2,978
239	6	22 Arietis	2 47,62	4 47,83	3 47,84	2 8 47,82	47,80	47,39	+0,02	+0,43	3,315
240	6	Ceti	6 18,10			2 9 18,10		17,41		+0,69	3,080
241	4	Eridani	6 30,55	3 30,30		2 10 30,46		30,11		+0,35	2,136
242	5	9 Persei	6 42,23		3 42 23	2 10 42,27		41,92		+0,35	4,100
243	Var.	68 Ceti			6 52,10	2 10 52,10		51,80		+0,30	3,021
244	6	69 Ceti		5 20,70		2 13 20,70		19,76		+0,94	3,063
245	6	70 Ceti	1 39,26	4 39,37		2 13 39,35		38,82		+0,53	3,047
246	6	Fornacis		5 51,56		2 14 51,48		50,42		+1,06	2,729
247	4.5	Cassiopeae	4 20,50	5 20,38	10 19,69	2 15 20,13	20,22	20,48	-0,09	-0,35	4,788
248	6.7	Ceti	2 32,57	4 32,49		2 15 32,51		32,35		+0,16	3,185
249	6	24 Arietis		5 49,38		2 15 49,38		49,13		+0,25	3,197
250	6	71 Ceti		5 29,44		2 16 29,44		29,28		+0,16	3,022
251	6	Arietis	2 45,59	2 45,75	2 45,62	2 17 45,66		45,44		+0,22	3,198
252	5	72 Ceti	6 50,33			2 17 50,33		50,13		+0,20	2,893
253	6	12 Trianguli		1 20,44	5 20,39	2 18 20,43		20,15		+0,28	3,487
254	4	Hydri	4 46,56	2 47,45		2 18 47,06		46,02		+1,04	1,041
255	5	73 Ceti		12 14,29	12 14,29	2 19 14,29	14,25	14,11	+0,04	+0,18	3,171
256	4.5	Eridani	4 49,63	4 49,52		2 20 49,56		47,66		+1,96	2,199
257	6.7	Arietis		5 53,53		2 20 53,55		53,00		+0,55	3,419
258	6.7	26 Arietis		5 14,14		2 21 14,16		13,54		+0,62	3,335
259	6	27 Arietis			6 36,09	2 21 36,12		35,78		+0,34	3,304
260	6	Fornacis	1 53,16	4 53,38		2 22 53,32		53,13		+0,19	2,732
261	5.6	75 Ceti		5 36,94		2 23 36,94		37,17		-0,23	3,044
262	6.7	29 Arietis			4 42,98	2 23 43,00		42,59		+0,41	3,267
263	5	76 Ceti	6 7,81	1 7,53		2 24 7,77		7,54		+0,23	2,843
264	6.7	Arietis			11 13,94	2 24 13,96		13,58		+0,38	3,325
265	6.7	Ceti		5 11,07		2 26 11,07		10,83		+0,24	3,162
266	6	77 Ceti		5 25,78		2 26 25,78		25,42		+0,36	2,948
267	6	Fornacis		5 29,47		2 26 29,45		29,36		+0,09	2,637
268	6.7	Ceti	3 52,63	2 52,87		2 26 52,72		48,59		+4,13	3,153
269	4.5	78 Ceti	6 4,00	5 3,92	7 4,01	2 27 3,98	4,02	3,53	-0,04	+0,45	3,136
270	6	30 Arietis		2 17,58	4 17,58	2 27 17,61		16,55		+1,06	3,423

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precessi- on.	
	No.		No.		No.					Green.	A. S. C		
	1831		1832		1833								
226	3 58 33,35		2 58 33,65				64 58 33,47					-17,483	
227	30 20 7,65		11 20 7,82		50 20 8,22		67 20 7,98	20 8,67	20 6,62	-0,69	+	1,36	17,461
228	6 48 41,49		5 48 41,79				55 48 41,63	48 41,93	48 37,14	-0,30	+	4,49	17,381
229			5 51 35,69				64 51 35,69		51 31,04		+	4,65	17,368
230					6 34 0,23		86 34 0,23		33 58,34		+	1,89	17,322
231			3 17 44,35		2 17 44,00		71 17 44,21		17 44,14		+	0,07	17,304
232	4 13 13,02		1 13 14,28				82 13 13,27		13 12,78		+	0,49	17,252
233					4 29 18,03		60 29 18,03		29 13,87		+	4,16	17,246
234			3 37 6,74				92 37 6,74		37 4,79		+	1,95	17,226
235					5 34 59,64		69 34 59,64		34 53,44		+	6,20	17,212
236			5 30 42,75				75 30 42,75	30 41,21	30 39,57	+1,54	+	3,18	17,190
237	5 56 42,78		5 56 41,38				81 56 42,08	56 41,57	56 41,00	+0,51	+	1,08	17,180
238	5 12 0,01						97 12 0,01		11 59,24		+	0,77	16,974
239	4 52 47,19		2 52 47,29				70 52 47,22	52 47,23	52 46,37	-0,01	+	0,85	16,966
240			5 2 23,91				89 2 23,91		2 36,85		-	12,94	16,942
241	5 17 33,24		5 17 33,14				142 17 33,19		17 33,83		-	0,64	16,883
242	4 55 48,97		5 55 49,99				34 55 49,54		55 47,79		+	1,75	16,877
243							93 44		44 35,16				16,868
244	5 22 35,49						90 22 35,49		22 32,30		+	3,19	16,750
245	5 39 10,89						91 39 10,89		39 11,69		-	0,80	16,735
246			5 34 58,99				114 34 58,99		34 57,91		+	1,08	16,677
247	5 21 32,95		5 21 30,86		3 21 31,25		23 21 31,75	21 34,08	21 36,73	-2,33	-	4,98	16,656
248			5 3 0,30				81 3 0,30		2 57,20		+	3,10	16,644
249			4 9 19,38				80 9 19,38		9 14,75		+	4,63	16,630
250	6 32 37,29						93 32 37,29		32 37,97		-	0,68	16,597
251	4 11 45,28						80 11 45,28		11 41,06		+	4,22	16,535
252	5 3 3,96		5 3 4,18				103 3 4,07		3 2,80		+	1,27	16,531
253			5 5 7,08				61 5 7,08		5 2,98		+	4,10	16,507
254	5 25 35,45						159 25 35,45		25 36,10		-	0,65	16,481
255	6 17 49,27				5 17 49,56		82 17 49,41	17 48,68	17 50,54	+0,73	-	1,13	16,461
256	5 27 36,78		5 27 35,28				138 27 36,03		27 43,84		-	7,81	16,382
257			5 30 50,09				65 30 50,09		30 48,04		+	2,05	16,379
258	5 53 41,69						70 53 41,69		53 37,39		+	4,30	16,362
259	5 2 34,14						73 2 34,14		2 32,32		+	1,82	16,343
260	2 17 34,48		3 17 35,67				113 17 35,19		17 35,08		+	0,11	16,277
261			5 46 49,86				91 46 49,86		46 50,41		-	0,55	16,240
262			1 42 51,07		4 42 49,67		75 42 49,95		42 47,63		+	2,32	16,235
263	5 59 9,24		5 59 8,84				105 59 9,04		59 1,81		+	7,23	16,213
264			5 51 54,51				71 51 54,51		51 52,87		+	1,64	16,209
265			5 15 49,63				83 15 49,63		15 45,80		+	3,83	16,107
266	5 35 45,14						98 35 45,44		35 45,39		+	0,05	16,094
267	5 58 24,09						118 58 24,09		58 25,05		-	0,96	16,090
268			1 55 5,86		4 55 9,39		83 55 8,68		55 54,64		-	45,96	16,075
269	5 8 43,96		1 8 43,90		5 8 42,97		85 8 43,42	8 38,36	8 36,24	+5,06	+	7,18	16,062
270					10 5 17,99		66 5 17,99		5 19,00		-	1,01	16,052

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.		Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832	Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion
				No. 1831	No. 1832	No. 1833				Green.	A. S.	
				s	s	s	h. m. s.	s.	s.	s.	s.	s.
271	6.7	Arietis.			2 20,23	3 20,50	2 27 20,42		19,98		+0,44	+3,423
272	6	31 Arietis	ν	2 28,92		6 28,99	2 27 28,98		28,72		+0,26	3,234
273	6.7	Ceti		5 41,68			2 27 41,68		41,52		+0,16	3,166
274	6	80 Ceti	e^2			4 44,30	2 2 44,30		44,01		+0,29	2,947
275	5.6	81 Ceti	d^2		4 14,30		2 29 14,30		14,41		-0,11	3,010
276	5.6	32 Arietis	ν			6 17,62	2 29 17,64		17,19		+0,45	3,382
277	6	33 Arietis				4 53,13	2 30 53,16		52,59		+0,57	3,472
278	4	82 Ceti	δ	6 52,81	6 52,77		2 30 52,79	52,81	52,77	-0,02	+0,02	3,062
279	7	Ceti			3 25,01	1 25,30	2 31 25,23		24,20		+1,03	3,145
280	4.5	83 Ceti	ϵ	6 26,47	5 26,57		2 31 26,52	26,59	26,41	-0,07	+0,11	2,885
281	6	84 Ceti				5 38,17	2 3 38,17		37,37		+0,80	3,048
282	4	13 Persei	θ		3 46,00	1 46,09	2 32 46,07	45,86	45,64	-0,21	+0,43	4,046*
283	6	34 Arietis	μ			5 54,69	2 32 54,71		53,61		+1,10	3,357
284	7	Arietis				5 58,69	2 32 58,71		57,55		+1,16	3,211
285	5	Eridani			5 23,78		2 33 23,75		23,78		-0,03	2,278
286	6	85 Ceti				3 27,00	2 33 27,01		26,59		+0,42	3,214
287	4	35 Arietis	α		5 36,79		2 33 36,81	36,75	36,11	+0,06	+0,70	3,490
288	4.5	Eridani	ι		5 2,48		2 34 2,46		1,57		+0,89	2,356
289	3	86 Ceti	γ	6 36,11			2 34 36,11	36,26	35,98	-0,15	+0,13	3,105
290	7	36 Arietis				3 57,54	2 34 57,56		56,96		+0,60	3,324
291	6.7	37 Arietis	ρ			3 18,39	2 35 18,41		17,77		+0,64	3,286
292	5.6	38 Arietis		1 48,09		7 49,14	2 35 49,13		48,41		+0,72	3,242
293	4	87 Ceti	μ	6 52,30	5 52,24		2 35 52,27	52,23	51,66	+0,04	+0,61	3,207
294	4	89 Ceti	π	6 7,86	2 7,95		2 36 7,89	7,79	7,46	+0,10	+0,43	2,849
295	5	Hydri	ϵ				2 36		51,00			0,868
296	5	Hydri	ζ	1 2,03	3 2,55	6 2,39	2 37 2,29		0,65		+1,64	0,866
297	5.6	1 Eridani	τ^1			4 16,30	2 37 16,28		15,65		+0,63	2,772
298	4	39 Arietis	b		6 55,41		2 37 55,44		55,26		+0,18	3,530
299	5	Persei			4 29,51	2 29,76	2 38 29,65		29,50		+0,10	4,292
300	6.7	16 Trianguli			2 0,99	2 0,86	2 39 0,96		0,19		+0,77	3,457
301	6	40 Arietis				7 7,90	2 39 7,92		7,31		+0,61	3,339
302	5	42 Arietis	π		4 55,85	2 55,73	2 39 55,82		55,03		+0,79	3,326
303	4.5	16 Persei	p^1		6 0,38		2 40 0,42	0,31	0,47	+0,11	-0,05	3,729
304	3	41 Arietis	c	3 6,77	4 6,81		2 40 6,80	6,76	6,63	+0,04	+0,17	3,497
305	5	Fornacis	ν	5 55,51			2 41 55,51		55,74		-0,23	2,388
306	5	Fornacis	β		5 3,74		2 42 3,72		3,36		+0,36	2,502
307	6	43 Arietis	σ	1 14,00	1 13,79	2 14,11	2 42 14,01		13,01		+1,00	3,291
308	5	18 Persei	τ	6 23,77	1 23,53	1 23,61	2 42 23,74	23,54	22,99	+0,20	+0,75	4,182
309	6	Fornacis	γ^1			5 24,63	2 42 24,60		24,45		+0,15	2,658
310	5	Hydri	ζ		1 59,13	4 59,21	2 42 59,07		58,63		+0,44	0,874
311	4.5	2 Eridani	τ^2	1 25,27	6 25,24	7 25,33	2 43 25,27	25,41	25,02	-0,14	+0,25	2,729
312	7	Arietis		1 51,26	4 51,25		2 43 51,26		50,77		+0,49	3,316
313	6	45 Arietis	p^2	1 23,03	4 22,84		2 46 22,90		22,35		+0,55	3,350
314	6	46 Arietis	p^3	1 58,12	2 57,84	5 57,95	2 46 57,96	57,92	57,86	+0,04	+0,10	3,346
315	6.7	Arietis		1 15,03	2 15,49	3 15,38	2 47 15,34		15,24		+0,10	3,188

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in					Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precession	
	No.	1831	No.	1832	No.				1833	Green.		A. S. C.
271		"		"		"		"	"	"		
272					66			5 20,40		-16,048		
273					78 17 3,81			17 2,98	+	0,83 16,040		
274					83 0 18,04			0 18,81	-	0,77 16,028		
275			5 7 36,91		98 33 57,28			33 52,84	+	4,44 16,026		
276					94 7 36,91			7 35,82	+	1,09 15,947		
277			5 46 13,53		68 46 13,53			46 11,91	+	1,62 15,945		
278			5 39 51,92		63 39 51,92			39 51,52	+	0,40 15,860		
279	5 24 4,86		3 24 3,96	1 24 5,79	90 24 4,47	24 2,00	24 3,52	+ 2,47	+	0,95 15,859		
280	3 36 57,15		2 36 58,86		84 36 57,83		36 56,40	+	1,43 15,831			
281	5 35 20,08		4 35 18,86		102 35 19,54	35 11,73	35 19,43	+ 7,81	+	0,11 15,829		
282			3 24 53,23	2 24 51,99	91 24 52,73		24 48,49	+	4,24 15,766			
283	4 29 15,63			5 29 17,63	41 29 16,74	29 16,71	29 16,09	+ 0,03	+	0,65 15,760		
284				5 42 31,23	70 42 31,23		42 29,06	+	2,17 15,752			
285				5 10 42,50	80 10 42,50		10 34,76	+	7,74 15,747			
286	5 36 53,83				133 36 53,83		36 55,92	-	2,09 15,723			
287				7 58 50,43	79 58 50,43		58 38,07	+	12,36 15,722			
288	4 0 42,14		5 0 44,01		63 0 43,17	0 46,40	0 45,32	- 3,23	-	2,15 15,713		
289	4 34 40,94				130 34 40,94		34 38,47	+	2,47 15,688			
290	5 28 34,63				87 28 34,63	28 35,90	28 36,38	- 1,27	-	1,75 15,658		
291			5 57 1,71		72 57 1,71		57 5,05	-	3,34 15,640			
292				5 24 20,15	75 24 20,15		24 11,62	-	8,53 15,621			
293	3 15 52,51			2 15 55,75	78 15 53,81		15 53,70	+	0,11 15,593			
294	5 36 2,08		5 36 0,49	5 36 1,52	80 36 1,36	35 58,82	35 54,02	+ 2,54	+	7,34 15,590		
295	5 34 30,30		5 34 28,73		104 34 29,51	34 28,58	34 17,34	+ 0,93	+	12,17 15,574		
296					158		58 49,90			15,528		
297				5 59 20,50	158 59 20,50		59 17,78	+	2,72 15,522			
298			5 17 16,07		109 17 16,07		17 15,79	+	0,28 15,511			
299	5 27 22,64		4 27 20,49	4 27 20,82	61 27 21,42	27 21,39	27 20,26	+ 0,03	+	1,16 15,476		
300	6 48 32,77				34 48 32,77		48 30,91	+	1,86 15,446			
301			5 31 6,28		65 31 6,28		31 3,60	+	2,68 15,416			
302					72 25 10,43		25 8,12	+	2,31 15,409			
303	5 14 18,16		5 14 19,43		73 14 18,60		14 18,69	-	0,09 15,364			
304			5 22 44,17		52 22 44,17	22 42,40	22 40,43	+ 1,77	+	3,74 15,360		
305			1 26 11,10	9 26 11,60	63 26 11,55	26 12,40	26 12,05	- 0,85	-	0,50 15,354		
306				5 6 23,31	128 6 23,31		6 26,48	-	3,17 15,249			
307	3 6 52,17		1 6 53,84		123 6 52,59		7 2,16	-	9,57 15,242			
308	3 36 54,03		3 36 56,37		75 36 55,20		36 51,89	+	3,31 15,234			
309	5 55 52,31			12 55 51,75	37 55 51,86	55 54,30	55 57,78	- 2,44	-	5,92 15,227		
310	5 15 19,65				115 15 19,65		15 13,42	+	6,23 15,222			
311	5 19 22,34				158 19 22,34		19 15,49	+	6,85 15,187			
312	5 42 2,77		5 42 0,69		111 42 1,73	41 59,00	41 56,62	+ 2,73	+	5,11 15,165		
313	5 12 24,83				74 12 24,83		12 22,52	+	2,31 15,142			
314	3 21 14,04		2 21 14,41		72 21 14,19		21 9,12	+	5,07 14,996			
315	5 39 6,05				72 39 6,05	39 5,30	39 5,78	+ 0,75	+	0,27 14,961		
316	5 17 55,56				82 17 55,56		17 54,51	+	1,05 14,944			

No.	Mag	Names.		Mean A. R. January 1, 1832, from Observations in			Mean A. R. Greenh January 1, 1832			Catal.	A. S. Catal.	Difference from		Annual Preces- sion
				No. 1831	No. 1832	No. 1833	1832					Green.	A. S.	
							s.	s.	s.					
316	3	3 Eridani	η	6 13,45	4 13,60	2 13,50	2	48	13,51	13,57	13,61	-0,06	-0,10	+2,917
317	6	47 Arietis		—	—	5 29,25	2	48	29,27		27,87		+1,40	3,394
318	7	Arietis		—	3 16,53	3 16,18	2	49	16,37		15,61		+0,76	3,412
319	5	48 Arietis	ε	6 37,30	6 37,30	5 37,27	2	49	37,30	37,27	36,98	+0,03	+0,32	3,408
320	5.6	4 Eridani		—	—	6 55,75	2	49	55,73		55,66		+0,17	2,656
321	5.6	6 Eridani		—	—	4 37,53	2	50	37,51		37,41		+0,10	2,660
322	5.6	91 Ceti	λ	—	—	3 43,36	2	50	43,36		42,56		+0,80	3,199
323	6	5 Eridani	Z^1	—	—	3 12,62	2	51	12,62		12,57		+0,05	3,018
324	5	Horologii	β	—	—	—	2	51	—		18,98		—	1,222
325	4.5	Eridani	θ^1	—	5 53,78	—	2	51	53,68		53,86		-0,18	2,277
326	6	49 Arietis		—	—	3 1,30	2	52	1,33		1,07		+0,26	3,508
327	6	Fornacis	ζ	—	—	3 12,37	2	52	12,35		12,17		+0,18	2,624
328	7	51 Arietis		—	—	2 29,57	2	52	29,60		28,48		+1,12	3,512
329	4	23 Persei	γ	6 40,78	1 40,89	—	2	52	40,80	40,60	40,28	+0,20	+0,52	4,273
330	5.6	8 Eridani	ρ^1	1 54,81	—	5 54,88	2	52	54,86		51,64		+0,22	2,934
331	5	Persei		—	5 58,33	—	2	52	58,39		58,41		-0,02	4,426
332	2.3	92 Ceti	α	9 30,35	—	14 30,36	2	53	30,36	30,32	30,15	+0,04	+0,21	3,123
333	6	Fornacis	ε	—	—	4 23,27	2	54	23,24		22,36		+0,88	2,563
334	4	25 Persei	ρ	5 26,20	2 26,28	—	2	54	26,26	26,27	25,77	-0,01	+0,49	3,792
335	5	9 Eridani	ρ^2	3 27,73	6 27,86	—	2	54	27,82		27,60		+0,22	2,933
336	4	11 Eridani	E	—	3 59,33	3 59,24	2	54	59,26		59,15		+0,11	2,651
337	6	Fornacis		—	—	—	2	55	—		0,29		—	2,663
338	6.7	52 Arietis	h	—	3 36,59	1 36,72	2	55	36,65		35,61		+1,04	3,492
339	5	10 Eridani	ρ^3	—	3 1,80	2 1,81	2	56	1,80		1,43		+0,37	2,933
340	4	Persei		—	5 59,42	1 59,28	2	56	59,41	58,76	54,63	+0,65	+4,78	4,138
341	2.3	26 Persei	β	5 16,03	3 15,87	1 16,10	2	57	16,00	15,97	15,43	+0,03	+0,57	3,859
342	6	53 Arietis		—	—	5 58,81	2	57	58,83		58,61		+0,22	3,358
343	5	27 Persei	κ	6 11,99	4 12,00	—	2	58	12,01		11,53		+0,18	3,979
344	6.7	54 Arietis		—	—	5 50,71	2	58	50,73		49,85		+0,88	3,376
345	7	Arietis		—	—	6 43,01	2	59	43,03		42,59		+0,44	3,413
346	6.7	Arietis		—	1 29,77	4 29,51	3	0	29,58		25,30		+4,28	3,535
347	6	Fornacis	α	—	4 40,39	—	3	0	40,37		39,82		+0,55	2,554
348	4	57 Arietis	δ	6 2,16	6 2,18	6 2,16	3	2	2,18	2,09	2,03	+0,09	+0,15	3,398
349	5	Hydri	θ^1	—	5 58,68	—	3	1	58,57		57,45		+1,12	0,034
350	6.7	Ceti		—	—	6 9,12	3	2	9,14		8,89		+0,25	3,278
351	6	56 Arietis	i	—	2 14,82	3 14,94	3	2	14,91		13,93		+0,98	3,546
352	5.6	94 Ceti	k^1	—	6 12,36	—	3	4	12,36		12,08		+0,28	3,037
353	3.4	12 Eridani		6 56,20	2 56,40	2 56,32	3	4	56,26	56,41	56,59	-0,15	-0,33	2,561*
354	5	58 Arietis	ζ	2 15,50	12 15,51	9 15,60	3	5	15,56	15,55	15,01	+0,01	+0,55	3,427
355	4	13 Eridani	ζ	5 40,67	7 40,68	3 40,59	3	7	40,66	40,67	40,48	-0,01	+0,18	2,906
356	6	14 Eridani		—	—	5 27,89	3	8	27,89		27,05		+0,84	2,899
357	5.6	95 Ceti	k^2	—	5 47,13	—	3	9	47,13		47,17		-0,04	3,041
358	6.7	59 Arietis		—	—	5 54,84	3	9	54,86		54,25		+0,61	3,558
359	5.6	Tauri		—	4 11,58	1 11,59	3	10	11,60		10,71		+0,89	3,601
360	6	96 Ceti	κ^1	—	—	6 33,61	3	10	33,61		33,13		+0,48	3,115

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from			Annual Precessi- on.
	No.	1831	No.	1832	No.	1833				Green.	A. S.	C	
316	4	34 19,53	5	34 17,49			99 34 18,40	34 16,16	34 10,68	+ 2,24	+ 7,72		-14,887
317			5	0 41,40			70 0 41,40		0 30,76		+ 10,64		14,874
318			4	3 32,35			69 3 32,35						14,827
319	5	20 11,98	5	20 13,26			69 20 12,62	20 13,09	20 9,02	-0,47	+ 3,60		14,806
320			5	32 28,15			114 32 28,15		32 20,66		+ 7,49		14,786
321	5	17 11,18					114 17 11,18		17 7,08		+ 4,10		14,745
322	2	45 59,08					81 45 59,08		46 0,73		- 1,65		14,741
323					5	8 16,66	93 8 16,66		8 16,04		+ 0,62		14,711
324							153		48 0,39				14,701
325	5	58 53,13					130 58 53,13		58 54,04		- 0,91		14,669
326			3	12 28,53			64 12 28,53		12 28,36		+ 0,17		14,664
327					5	57 6,41	115 57 6,41		57 7,46		- 1,05		14,651
328					5	3 3,00	64 3 3,00		3 6,14		- 3,14		14,637
329	5	9 32,30	5	9 31,23			37 9 31,76	9 31,07	9 31,64	+ 0,69	+ 0,12		14,627
330	2	19 46,07	5	19 45,47	3	19 45,90	98 19 45,72		19 44,09		+ 1,63		14,610
331	5	57 39,88					33 57 39,88		57 43,70		- 3,82		14,609
332	15	34 25,68	9	34 27,48	4	34 26,91	86 34 26,43	34 27,70	34 25,80	-1,27	+ 0,63		14,575
333					6	44 17,10	118 44 17,10		44 7,64		+ 9,46		14,521
334	4	49 2,19					51 49 2,19	49 0,11	48 59,60	+ 2,08	+ 2,59		14,520
335	3	21 1,54	2	20 58,70	1	20 59,86	98 21 0,31		21 4,58		- 4,27		14,517
336	2	17 14,19			3	17 13,57	114 17 13,82	17 14,71	17 10,05	-0,89	+ 3,77		14,484
337					2	38 21,58	113 38 21,58		38 46,58		- 25,00		14,483
338			5	24 16,71			65 24 16,71		24 14,28		+ 2,43		14,449
339	1	15 44,91	2	15 42,95			98 15 43,60		15 44,87		- 1,27		14,422
340	5	2 7,51	5	2 8,34			41 2 7,92	2 8,21	2 8,23	-0,29	- 0,31		14,370
341	12	41 55,98	5	41 55,43			49 41 55,79	41 52,93	41 40,84	+ 2,86	+ 14,95		14,349
342			4	46 25,86			72 46 25,86		46 26,30		- 0,44		14,304
343	5	47 8,51	3	47 8,78			45 47 8,61		47 9,76		- 1,15		14,292
344					5	51 19,66	71 51 19,66		51 16,84		+ 2,82		14,251
345	2	53 13,11			4	53 16,13	69 53 15,12		53 12,68		+ 2,44		14,197
346					5	45 3,81	63 45 3,81						14,153
347	4	28 42,21					118 28 42,21		28 48,92		- 6,71		14,136
348	4	54 52,34	6	54 53,70	6	54 52,29	70 54 52,84	54 51,33	54 49,93	+ 1,51	+ 2,91		14,053
349					1	33 29,13	162 33 29,13		33 19,60		+ 9,53		14,051
350	2	35 37,37	3	35 37,10			77 35 37,21		35 39,98		- 2,77		14,046
351			1	22 53,39	4	22 54,09	63 22 53,95		22 54,13		- 0,18		14,041
352	5	49 48,04	1	49 44,34			91 49 47,42		49 46,48		+ 0,94		13,916
353	5	33 15,73	4	39 14,95			119 39 15,38	39 12,80	39 8,29	+ 2,58	+ 7,09		14,689
354	5	35 2,61	9	35 3,53	5	35 4,49	69 35 3,54	35 1,70	34 59,11	+ 1,84	+ 4,43		13,851
355	5	26 58,06	5	26 55,20			99 26 56,63	26 55,61	26 53,17	+ 1,02	+ 3,46		13,696
356	5	46 55,14					99 46 55,14		46 51,90		+ 3,24		13,646
357	5	32 49,39					91 32 49,39		32 51,69		- 2,30		13,561
358	2	33 28,00	4	33 29,19			63 33 28,79		32 29,33		- 0,54		13,554
359			2	33 58,83	3	33 59,64	61 33 59,32		33 57,56		+ 1,76		13,537
360					5	15 6,41	87 15 6,41		15 7,94		- 1,53		13,512

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832			Green ^h Catal.	A. S. Catal.	Difference from		Annual Preces- sion	
											Green.	A. S.		
			No. 1831	No. 1832	No. 1833									
				s		s		s		s.	s.	s.	s.	s.
361	5.6	15 Eridani	τ ¹				5 56,66	3 10 56,64		56,62		+0,02	+2,646	
362	6	61 Arietis					3 32,39	3 11 32,41		32,42		-0,01	3,439	
363	3.4	16 Eridani		1	2,81	6	2,80	1 2,70	3 12 2,78	2,95	2,51	-0,17	+0,27	2,659
364	6	62 Arietis					5 7,79	3 12 7,81		7,16		+0,65	3,574	
365	2.3	33 Persei	α	8 22,05	5	22,11	2 21,87	3 12 22,05	22,14	21,77	-0,09	+0,28	4,221	
366	6	97 Ceti	η ²				5 20,00	3 12 20,00		19,97		+0,03	3,121	
367	7	63 Arietis	τ ²				5 6,09	3 13 6,11	5,90	5,24	+0,21	+0,87	3,433	
368	4	Eridani	ε	6 13,19	4	13,31	2 13,72	3 13 13,30		4,55			2,114	
369	5.6	64 Arietis	g				5 24,09	3 14 24,11		24,04		+0,07	3,517	
370	6	65 Arietis			14	45,66		3 14 45,68		44,87		+0,81	3,437	
371	4	Camelopard	σ	6 31,97				3 15 31,97	31,50	31,53	+0,47	+0,44	4,765	
372	4.5	1 Tauri		2 47,02	5	46,72		3 15 46,80	47,00	46,66	-0,20	+0,14	3,217	
373	4.5	Camelopard				4	33,55		3 16 33,55	33,51	33,23	+0,04	+0,32	4,702
374	7	Tauri				1	28,30	4 28,59	3 17 28,55		28,40		+0,15	3,400
375	4	2 Tauri	ξ		6	4,49	10 4,53	3 18 4,52	4,51	4,15	+0,01	+0,37	3,231	
376	6.7	66 Arietis	ς				5 38,29	3 18 38,31		38,13		+0,18	3,484	
377	5	35 Persei		6 45,99				3 18 45,99		46,60		-0,61	4,178	
378	6	4 Tauri			5	14,15		3 21 14,16		13,91		+0,25	3,263	
379	5.6	5 Tauri		f			15 36,69	3 21 36,71	36,66	36,18	+0,05	+0,53	3,293	
380	4.5	17 Eridani		6 17,23	9	17,28	2 17,35	3 22 17,27	17,31	17,18	-0,04	+0,09	2,966	
381	6.7	6 Tauri	t				5 31,18	3 23 31,20		30,71		+0,49	3,228	
382	5	Eridani	z	3 14,40	5	14,56		3 24 14,48		14,42		+0,06	2,134	
383	6	7 Tauri			3	30,41	3 30,45	3 24 30,45		29,60		+0,85	3,529	
384	5	37 Persei	↓	5 35,35	6	35,37		3 24 35,39		34,59		+0,80	4,208	
385	4	18 Eridani	ε		7	1,39	6 1,27	3 25 1,32	1,49	1,22	-0,17	+0,10	2,884	
386	4	19 Eridani	η ²	6 22,16	2	22,28	4 22,41	3 26 22,26	22,26	21,97	0,00	+0,29	2,641	
387	6	9 Tauri			5	6,10		3 27 6,11		6,08		+0,03	3,506	
388	5	10 Tauri	E	4 18,51	7	18,34		3 28 18,40		18,42		-0,02	3,065	
389	6	20 Eridani	F				6 38,36	3 28 38,34		38,08		+0,26	2,725	
390	7	Tauri			4	56,25	1 56,37	3 29 56,28		55,86		+0,42	3,371	
391	6	21 Eridani			3	43,96	3 43,84	3 30 43,90		43,35		+0,55	2,953	
392	6	11 Tauri			5	45,06		3 30 45,08		44,78		+0,30	3,558	
393	3.4	39 Persei	δ	6 59,87	6	59,93		3 30 59,92	59,84	59,76	+0,08	+0,16	4,217	
394	5	Eridani	y	5 4,14	1	4,22		3 31 4,15		4,21		-0,06	2,149	
395	6	12 Tauri					4 6,77	3 31 6,77		6,50		+0,27	3,114	
396	6	Fornacis	τ				5 48,63	3 31 48,61		48,62		-0,01	2,489	
397	5.6	22 Eridani					5 19,71	3 32 19,71		19,34		+0,37	2,960	
398	6.7	13 Tauri	F ¹		3	38,25	1 38,34	3 32 38,29		38,01		+0,28	3,439	
399	4.5	41 Persei	ν	5 48,50	4	48,57		3 33 48,54		47,49		+1,05	4,035	
400	4	Persei			5	48,04		3 33 48,06	48,43	48,13	-0,37	-0,07	3,732	
401	7	14 Tauri	F ²				3 5 19	3 34 5,22		4,58		+0,64	3,440	
402	5.6	16 (Pleiadum g)					4 49,88	3 34 49,90	50,11	49,48	-0,21	+0,42	3,542	
403	4.5	17 (Pleiadum b)		3 55,01	6	54,79		3 34 54,87	54,75	54,59	+0,12	+0,28	3,538	
404	7	18 (Pleiadum m)					5 9,21	3 35 9,24		8,60		+0,64	3,555	
405	5	19 (Pleiadum c)		6 13,42	1	13,71		3 35 13,47	13,38	12,87	+0,09	+0,60	3,546	

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in					Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precession	
	No. 1831		No. 1832		No. 1833				Green.	A. S. C.		
361					5 7 45,57	113 7 45,57		7 44,74	+	0,83	13,485	
362					5 27 52,71	69 27 52,71		27 49,71	+	3,00	13,448	
363	5 22 24,07		5 22 24,04			112 22 24,05	22 27,35	22 27,58	-3,30	-	3,53	13,414
364					5 0 5,10	63 0 5,10		0 4,27	+	0,83	13,411	
365	29 44 41,29		6 44 40,08		2 44 40,76	40 44 41,08	44 39,81	44 36,33	+1,27	+	4,75	13,397
366	5 56 5,20					86 56 5,20		56 3,53	+	1,67	13,396	
367			1 51 52,68		4 51 55,57	69 51 54,99	51 52,61	51 54,14	+2,38	+	0,85	13,348
368	4 42 57,22		5 42 57,83			133 42 57,56		43 25,88	-	28,32	13,346	
369					5 52 37,11	65 52 37,11		52 30,66	+	6,45	13,262	
370	3 47 56,69		8 47 57,53			69 47 57,30		47 50,13	+	7,17	13,239	
371	5 39 16,27		5 39 15,23			30 39 15,75	39 14,58	39 15,52	+1,17	+	0,23	13,191
372			6 34 3,80		5 34 3,75	81 34 3,78	34 4,28	34 2,02	-0,50	+	1,76	13,171
373	5 42 44,86		5 42 43,78			31 42 44,32	42 45,88	42 45,71	-1,56	-	1,39	13,123
374			1 50 14,59		4 50 13,84	71 50 13,99		50 15,09	-	1,10	13,059	
375	5 51 31,83		5 51 31,93			80 51 31,88	51 29,75	51 28,47	+2,13	+	3,41	13,019
376	5 46 48,68					67 46 48,68		46 48,85	-	0,17	12,982	
377	5 35 29,89		2 35 28,41			42 35 29,47		35 33,92	-	4,45	12,974	
378	3 14 46,39		2 14 45,06			79 14 45,86		14 39,07	+	6,79	12,808	
379			2 38 39,31		6 38 38,74	77 38 38,88	38 40,25	38 39,50	-1,37	-	0,62	12,783
380	4 39 25,93		6 39 24,22			95 39 24,90	39 23,86	39 22,98	+1,04	+	1,92	12,736
381	5 11 59,93					81 11 59,93		11 58,42	+	1,51	12,654	
382	4 56 25,83		3 56 27,69			131 56 26,63		56 16,93	+	9,70	12,602	
383	5 6 18,15					66 6 18,15		6 18,46	-	0,31	12,588	
384	5 22 25,27		5 22 25,32			42 22 25,30		22 30,52	-	5,22	12,584	
385	5 1 58,93		5 1 58,21			100 1 58,57	1 55,34	1 55,55	+3,23	+	3,02	12,550
386	5 12 5,07		3 12 2,72			112 12 4,19	12 3,74	12 3,07	+0,45	+	1,12	12,458
387	6 21 2,72					67 21 2,72		20 59,48	+	3,24	12,409	
388	8 8 15,91		5 8 16,40			90 8 16,10		8 8,18	+	7,92	12,325	
389						108		1 33,81	-		12,302	
390	1 0 53,16		4 0 56,50			74 0 55,83		0 54,88	+	0,95	12,214	
391			5 10 12,55			96 10 12,55		10 8,27	+	4,28	12,158	
392			1 13 15,29		4 13 16,26	65 13 16,07		13 12,74	+	3,33	12,158	
393	5 45 26,20		5 45 25,59		12 45 25,76	42 45 25,82	45 27,03	45 29,39	-1,21	-	3,57	12,142
394	5 49 48,86		5 49 48,25			130 49 48,55		49 47,64	+	0,91	12,132	
395					5 29 41,79	87 29 41,79		29 38,41	+	3,38	12,131	
396			1 29 43,36		4 29 44,45	118 29 44,23		29 47,08	-	2,85	12,081	
397			1 45 32,49		4 45 33,15	95 45 33,02		45 30,67	+	2,35	12,046	
398	1 50 35,93		3 50 38,14			70 50 37,89		50 36,18	+	1,71	12,026	
399	5 57 31,42		4 57 29,45			47 57 30,55	57 35,22	57 33,68	-4,67	-	3,13	11,946
400	5 15 0,79		5 15 1,64			58 15 1,22		15 2,49	-	1,27	11,944	
401			1 52 18,63		4 52 20,64	70 52 20,24		52 16,90	+	3,34	11,924	
402					3 14 43,54	66 14 43,54	14 44,55	14 42,42	-1,01	+	1,12	11,872
403	4 25 15,65		7 25 16,02			66 25 15,89	25 16,45	25 11,26	-0,56	+	4,63	11,866
404					7 41 42,10	65 41 42,10		41 38,41	+	3,69	11,850	
405	4 3 56,95				5 3 57,68	66 3 57,36	4 0,15	3 54,45	-2,79	+	2,91	11,845

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832	Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831	No. 1832	No. 1833				Green.	A. S.	
406	3.4	23 Eridani δ	s.	s.	s.	h. m. s.	s.	s.	s.	s.	s.
407	6	Eridani	—	5 12,42	—	3 35 12,41	12,26	12,45	+0,15	-0,04	+2,871
408	5	Fornacis δ	—	5 34,22	—	3 35 32,77	—	32,48	—	+0,29	2,858
409	5	20 (Pleiadum c)	—	2 50,71	2 50,46	3 35 34,19	—	34,37	—	-0,18	2,381
410	5	23 (Pleiadum d)	—	5 22,05	—	3 35 50,59	—	50,25	—	+0,34	3,545
411	5	Eridani h	—	—	5 36,72	3 36 36,74	—	—	—	—	—
412	6	29 Tauri u^1	—	—	5 45,45	3 36 45,45	—	35,93	—	+0,81	2,227
413	7	(Pleiadum)	—	—	3 30,38	3 37 30,40	—	44,93	—	+0,52	3,173
414	3	25 Tauri η	3 30,76	1 30,66	1 30,65	3 37 30,73	30,65	30,17	—	+0,23	3,546
415	5	26 Eridani π	—	6 12,35	—	3 38 12,34	—	30,27	+0,08	+0,46	3,542
416	7	Tauri	—	—	5 24,79	3 38 24,82	—	12,17	—	+0,17	2,824
417	6	30 Tauri e	—	5 4,13	—	3 39 4,15	—	24,73	—	+0,09	3,528
418	5	27 (Pleiadum f)	3 10,98	6 11,17	—	3 39 11,12	—	3,11	—	+1,04	3,273
419	5.6	28 (Pleiadum h)	—	—	5 12,28	3 39 12,30	—	10,72	—	+0,40	3,543
420	6	Fornacis ϵ	—	—	5 36,87	3 39 36,83	—	11,65	—	+0,65	3,545
421	5	27 Eridani m^1	6 37,44	3 37,40	—	3 39 37,42	—	36,62	—	+0,21	2,440
422	7	Tauri	—	4 3,20	1 3,55	3 40 3,31	—	37,31	—	+0,11	2,587
423	6.7	(Pleiadum)	—	—	5 14,08	3 40 14,11	—	3,06	—	+0,25	3,504
424	5	28 Eridani m^2	—	5 26,50	—	3 40 26,47	—	13,34	—	+0,77	3,580
425	4	Reticuli β	—	4 7,20	—	3 42 7,16	—	26,96	—	-0,49	2,571
426	5	Eridani	—	6 24,07	—	3 42 24,06	—	6,56	—	+0,60	0,668
427	6	31 Tauri u^2	—	5 3,24	—	3 43 3,24	—	23,71	—	+0,35	2,202
428	5	Eridani g	5 9,94	—	—	3 43 9,94	—	2,52	—	+0,72	3,184
429	7	Tauri	—	5 34,25	—	3 43 34,25	—	10,50	—	-0,56	2,244
430	3.4	44 Persei ζ	6 35,36	2 35,23	13 35,36	3 43 35,37	35,35	33,40	—	+0,85	3,402
431	6	30 Eridani	—	—	5 24,18	3 44 24,18	—	35,07	+0,02	+0,30	3,742
432	5	32 Eridani	—	5 51,69	—	3 45 51,69	—	23,70	—	+0,48	2,954
433	3.4	45 Persei ϵ	—	12 36,19	5 36,03	3 46 36,19	—	51,65	—	+0,04	3,001
434	5.6	33 Eridani l	—	—	5 34,31	3 47 34,28	36,18	36,03	+0,01	+0,16	3,988
435	6	32 Tauri	—	—	5 57,39	3 47 57,41	—	33,68	—	+0,60	2,545
436	6.7	33 Tauri	—	5 6,88	—	3 47 6,90	—	56,77	—	+0,64	3,519
437	5	Eridani i	5 14,82	4 15,00	—	3 47 14,89	—	6,39	—	+0,51	3,535
438	5	46 Persei ζ	6 5,15	4 5,08	—	3 48 5,13	—	15,03	—	-0,14	2,278
439	3	Hydri γ	—	4 57,00	1 57,41	3 49 56,94	—	4,37	—	+0,76	3,861
440	2.3	34 Eridani γ^1	1 11,89	6 11,71	12 11,76	3 50 11,74	11,73	55,50	—	+1,44	-1,068
441	6.7	Tauri	—	5 8,62	—	3 51 8,63	—	11,53	+0,01	+0,21	+2,787
442	7	34 Tauri	—	4 20,47	1 20,65	3 51 20,51	—	8,26	—	+0,37	3,429
443	4	35 Tauri λ	6 22,97	2 22,95	7 22,82	3 51 22,90	—	18,96	—	+1,55	3,473
444	5	36 Eridani k	4 46,08	1 45,83	—	3 52 46,03	22,88	22,36	+0,02	+0,54	3,309
445	5	35 Eridani	—	6 1,68	—	3 53 1,68	—	45,68	—	+0,35	2,551
446	5	38 Tauri ν	—	6 13,64	—	3 54 13,64	—	1,58	—	+0,16	3,028
447	6.7	36 Tauri	—	5 19,54	—	3 54 19,55	—	13,60	—	+0,04	3,178
448	5	37 Tauri A^1	6 46,42	7 46,58	5 46,50	3 54 46,51	46,48	19,32	—	+0,23	3,567
449	6.7	39 Tauri A^2	—	2 24,24	3 24,42	3 55 24,37	—	46,12	+0,03	+0,39	3,520
450	5	Reticuli δ	—	5 6,41	—	3 56 6,31	—	23,99	—	+0,38	3,519
								5,87	—	+0,44	0,925

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from			Annual Precession.
	No.	1831	No.	1832	No.	1833				Green.	A. S.	C.	
406	5	20 17,16	5	20 18,50			100 20 17,83	20 19,43	20 13,19	-1,60	+	4,64	-11,243*
407					5	1 23,25	101 1 23,25		1 21,53	+		1,72	11,820
408	5	28 44,61	5	28 45,78			122 28 45,19		28 44,09	+		1,10	11,817
409	1	9 46,07			4	9 49,13	66 9 48,72		9 46,70	+		2,02	11,801
410					7	34 52,10	66 34 52,10	34 54,15	34 42,51	-2,05	+	9,59	11,763
411			5	50 49,97			127 50 49,97		50 51,80			1,83	11,744
412			1	28 58,45	4	28 55,50	84 28 55,93		28 56,18	-		0,25	11,735
413					4	14 13,97	66 14 13,97		14 12,24	+		1,73	11,683
414	5	25 12,74	4	25 13,43			66 25 13,05	25 15,35	25 14,50	-2,30	-	1,45	11,682
415	4	37 59,78			1	37 59,01	102 37 59,63		38 0,89	-		1,26	11,631
416					5	6 6,06	67 6 6,06		6 2,32	+		3,74	11,618
417	2				3	22 47,91	79 22 47,91		22 44,89	+		3,02	11,572
418	4	27 59,19	5	27 59,24			66 27 59,22		28 0,02	-		0,80	11,563
419			5	22 58,05			66 22 58,05		22 59,47	-		1,42	11,562
420					5	51 56,75	119 51 56,75		51 54,52	+		2,23	11,530
421	5	44 59,81					113 44 59,81		45 3,52	-		3,71	10,939*
422					5	16 23,32	68 16 23,32		16 22,08	+		1,24	11,501
423	1	56 7,92			4	56 8,02	64 56 8,00		55 59,42	+		8,58	11,489
424	5	24 1,21					114 24 1,21		23 57,14	+		4,07	11,470
425			5	20 13,78			155 20 13,78		20 20,21	-		6,43	11,346
426			5	8 18,42			128 8 18,42		8 13,25	+		5,17	11,329
427			5	58 30,49			83 58 30,49		58 32,01	-		1,52	11,285
428	5	42 45,84	5	42 48,38			126 42 47,11		42 45,02	+		2,09	11,273
429					7	10 45,05	73 10 45,05		10 45,19	-		0,14	11,248
430	5	37 17,80	7	37 18,32	5	37 17,91	58 37 18,04	37 19,36	37 22,78	-1,32	-	4,74	11,247
431			5	52 7,20			95 52 7,20		52 3,52	+		3,68	11,186
432	5	27 23,63	5	27 24,47			93 27 24,05		27 24,37	-		0,32	11,080
433	5	29 2,46	5	29 2,59	5	29 3,08	50 29 2,70	29 0,65	28 59,54	+2,05	+	3,16	11,028
434			5	6 55,56			115 6 55,56		6 51,98	+		3,58	11,027
435			4	0 42,95	1	0 42,60	68 0 42,88		0 42,00	+		0,88	11,002
436					5	19 7,75	67 19 7,75		19 7,75			0,00	10,990
437	5	14 4,04	5	14 4,88			125 14 4,46		13 59,48	+		4,98	10,976
438	5	42 2,65	5	41 59,35			54 42 1,00		41 58,44	+		2,56	10,920
439					1	45 40,02	164 45 40,02		45 11,90	+		28,12	10,772
440	7	59 28,25	5	59 28,25	5	59 28,98	103 59 28,49	59 30,53	59 28,38	-2,04	+	0,11	10,762
441	5	17 9,35	5	17 9,99			72 17 9,97		17 8,89	+		1,08	10,693
442			5	16 44,03			70 16 44,03		16 40,30	+		3,73	10,680
443	5	59 21,69	6	59 23,29	6	59 22,52	77 59 22,54	59 25,63	59 19,81	-3,09	+	2,73	10,676
444	4	29 51,08	5	29 53,40			114 29 52,37		29 47,30	+		5,07	10,571
445	5	1 36,04	5	1 35,88			92 1 35,96		1 35,21	+		0,75	10,552
446	5	28 57,68	5	29 0,99			84 28 59,33		28 54,85	+		4,48	10,463
447			4	21 46,34			66 21 46,34		21 46,73	-		0,39	10,457
448	5	22 58,15	8	22 59,07	3	22 59,64	68 22 58,89	23 2,68	23 4,04	-3,79	+	5,15	10,424
449	5	27 0,20	2	27 2,13			68 27 0,75		27 1,46	-		0,71	10,376
450	5	52 34,78	5	52 35,37			151 52 35,07		52 18,39	+		16,68	10,318

No.	Mag	Names.		Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832		Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion
				No. 1831 No. 1832 No. 1833							Green.	A. S.	
				s	s	s	h. m. s.	s.			s.	s.	
451	6	41 Tauri				5 18,99	3 56 19,01			18,96		+0,05	+3,655
452	5	48 Persei	c	4 29,80	2 29,99		3 56 29,88			29,18		+0,70	4,308
453	5.6	42 Tauri	↓			5 38,16	3 56 38,18			37,92		+0,26	3,692
454	6	Tauri			5 22,75	1 22,83	3 58 22,78			22,46		+0,32	3,418
455	5	Reticuli	γ	5 29,41	3 29,49		3 58 29,43			27,32		+2,11	0,841
456	6	Eridani	A		4 42,36	2 41,97	3 58 42,22			41,59		+0,63	2,452
457	6	43 Tauri	ω ¹			5 23,55	3 59 23,57			23,29		+0,28	3,469
458	6.7	Tauri				6 39,39	3 59 39,41			38,83		+0,58	3,334
459	6.7	44 Tauri	P			6 37,02	4 0 37,04			36,49		+0,55	3,634
460	5.6	37 Eridani			6 11,20		4 2 11,19			10,89		+0,30	2,918
461	6	45 Tauri			5 24,22		4 2 24,23			23,82		+0,41	3,171
462	4.5	51 Persei	μ	5 35,48	5 35,49	5 35,15	4 2 35,41	35,45		35,34	-0,04	+0,07	4,360
463	7	Tauri			4 54,27	2 54,52	4 2 54,36			54,11		+0,25	3,538
464	4.5	38 Eridani	ο	6 40,16	6 40,18	6 40,32	4 3 40,22	40,19		39,60	+0,03	+0,62	2,919
465	6	46 Tauri				5 30,86	3 4 30,86			30,36		+0,50	3,217
466	5.6	47 Tauri			1 48,60	4 48,81	4 4 48,77			48,42		+0,35	3,250
467	5	Persei	b	4 38,47	4 38,54		4 5 38,49			38,02		+0,47	4,459
468	6	48 Tauri		1 14,63	5 14,52		4 6 14,55			14,14		+0,41	3,382
469	5	49 Tauri	μ	1 25,03	5 25,09		4 6 25,09			24,88		+0,21	3,243
470	5	39 Eridani	A		5 24,45		4 6 24,45			24,27		+0,18	2,846
471	5.6	50 Tauri	ω ²		5 25,62		4 7 25,63			25,23		+0,40	3,500
472	5	40 Eridani	d		6 32,51		4 7 32,51			32,18		+0,33	2,757*
473	7	51 Tauri			2 27,40	3 27,48	4 8 27,47			26,98		+0,49	3,525
474	5	Horologii	α	5 26,32	3 26,66		4 8 26,52			25,98		+0,54	1,978
475	6.7	53 Tauri			5 32,54		4 9 32,56			32,03		+0,53	3,516
476	6.7	56 Tauri				5 40,75	4 9 40,77			40,29		+0,48	3,531
477	6	52 Tauri	Φ			5 2,08	4 10 2,10	2,08		2,12	+0,02	-0,02	3,670
478	3.4	54 Tauri	γ	6 14,61	11 14,50		4 10 14,55	14,42		14,23	+0,13	+0,32	3,390
479	6	57 Tauri	h ¹			5 30,69	4 10 30,71			30,60		+0,11	3,355
480	6	58 Tauri	h ²		2 5,31	3 5,28	4 11 5,31			4,42		+0,89	3,379
481	6.7	Tauri				5 26,27	4 11 26,29			26,14		+0,15	3,352
482	3.4	41 Eridani	X	5 32,38	6 32,55		4 11 32,47	32,42		31,63	+0,05	+0,84	2,259
483	4	Doradus	γ	2 38,17	2 38,14		4 11 38,14			37,10		+1,04	1,550
484	6	59 Tauri	α			5 22,15	4 12 22,17	22,05		21,81	+0,12	+0,36	3,629
485	3.4	Reticuli	α		5 17,04		4 12 16,96			16,50		+0,46	0,741
486	7	Tauri				5 30,53	4 12 30,55			30,10		+0,45	3,511
487	7	60 Tauri	h ³			3 36,00	4 12 36,03			35,37		+0,66	3,358
488	4	61 Tauri	δ ¹	5 15,50	5 15,28	6 15,51	4 13 15,38	15,31		14,88	+0,07	+0,50	3,426
489	5	Reticuli	ε		4 35,94		4 13 35,90			35,83		+0,07	1,023
490	6	63 Tauri			4 47,24	1 47,15	4 13 47,22			46,95		+0,27	3,419
491	7	62 Tauri				3 52,62	4 13 52,64			52,71		-0,07	3,598
492	4.5	64 Tauri	δ ²		3 25,21		4 14 25,23	25,15		25,11	+0,08	+0,12	3,435
493	6	Eridani	ο ²			3 33,17	4 14 33,13			32,97		+0,16	2,481
494	5.6	66 Tauri	r			3 42,82	4 14 42,85			41,71		+1,14	3,259
495	6	42 Eridani	ξ			5 19,35	4 15 19,35			18,86		+0,49	2,981

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precession	
	No. 1831	No. 1832	No. 1833				Green.	A. S. C.		
	" "	" "	" "	" "	" "	" "	" "	" "	" "	
451	5 51 33,26	4 51 31,15	—	62 51 33,66	—	51 34,49	—	0,83	10,308	
452	5 44 39,34	5 44 37,56	—	42 44 38,45	—	44 43,60	—	5,15	10,297	
453	—	5 27 36,04	—	61 27 36,04	—	27 30,89	+	5,15	10,285	
454	—	1 6 56,47	4 6 55,29	73 6 55,53	—	6 56,16	—	0,63	10,153	
455	5 37 46,32	5 37 44,07	—	152 37 45,20	—	37 43,82	+	1,38	10,140	
456	—	—	5 6 57,00	118 6 57,00	—	7 2,85	—	5,85	10,126	
457	—	—	5 50 31,44	70 50 31,44	—	50 21,34	+	10,10	10,076	
458	3 3 10,56	1 3 11,53	—	77 3 10,80	—	3 9,69	+	1,11	10,056	
459	5 57 50,87	—	—	63 57 50,87	—	57 55,58	—	4,71	9,984	
460	5 22 7,84	6 22 6,74	—	97 22 7,24	—	22 6,27	+	0,97	9,863	
461	—	5 55 19,34	—	84 55 19,34	—	55 14,22	+	5,12	9,847	
462	5 1 26,44	5 1 35,84	5 1 36,19	42 1 36,16	1 34,82	1 38,39	+1,34	—	2,23	9,836
463	1 2 27,21	4 2 29,23	—	68 2 28,83	—	1 30,55	—	1,72	9,810	
464	5 16 54,00	5 16 52,35	—	97 16 53,17	16 54,52	16 52,82	-1,35	+	0,35	9,750
465	—	—	5 43 9,56	82 43 9,56	—	43 8,29	+	1,27	9,686	
466	—	5 10 8,17	—	81 10 8,17	—	10 5,03	+	3,14	9,663	
467	5 7 40,57	5 7 41,94	—	40 7 41,25	—	7 36,12	+	5,13	9,603	
468	—	5 1 38,54	—	75 1 38,54	—	1 26,93	+	11,61	9,554	
469	4 32 5,77	4 32 5,22	—	81 32 5,50	—	32 4,14	+	1,36	9,540	
470	5 40 46,58	5 40 46,97	—	100 40 46,77	—	40 42,05	+	4,72	9,540	
471	5 50 33,53	5 50 34,37	—	69 50 33,95	—	50 27,22	+	6,73	9,463	
472	5 55 7,48	5 55 8,34	—	97 55 7,91	—	55 6,70	+	1,21	5,852*	
473	5 50 16,05	—	—	68 50 16,05	—	50 16,58	—	0,53	9,384	
474	5 42 41,21	5 42 44,10	—	132 42 42,65	—	42 38,14	+	4,51	9,381	
475	1 16 14,17	4 16 15,69	—	69 16 15,39	—	16 15,40	—	0,01	9,300	
476	—	3 38 18,35	3 38 18,57	68 38 18,46	—	—	—	—	9,289	
477	—	—	5 3 28,41	63 3 28,41	3 30,92	3 30,53	-2,51	—	2,12	9,261
478	5 47 7,80	11 47 8,57	3 47 9,15	74 47 8,54	47 4,78	47 4,92	+3,76	+	3,62	9,245
479	—	—	5 22 36,55	76 22 36,55	—	22 27,82	+	8,73	9,224	
480	—	7 18 53,33	—	75 18 53,33	—	18 45,85	+	7,48	9,180	
481	3 32 36,71	2 32 39,62	—	76 32 37,87	—	32 34,43	+	3,44	9,152	
482	5 12 46,93	5 12 47,03	—	124 12 46,98	12 47,90	12 46,64	-0,92	+	0,34	9,142
483	5 54 49,95	5 54 49,31	—	141 54 49,63	—	55 9,83	—	20,20	9,133	
484	—	4 46 31,29	1 46 30,96	64 46 31,22	46 27,95	46 26,68	+3,27	+	4,54	9,080
485	4 53 42,89	5 53 42,76	—	152 53 42,82	—	53 28,30	+	14,52	9,080	
486	—	—	5 35 3,55	69 35 3,55	—	34 58,32	+	5,23	9,069	
487	—	—	5 19 35,63	76 19 35,63	—	19 31,27	+	4,36	9,062	
488	5 51 28,24	5 51 28,07	—	72 51 28,15	51 30,36	51 24,03	-2,21	+	4,12	9,011
489	5 42 30,66	5 42 31,93	—	149 42 31,30	—	42 30,11	+	1,19	8,977	
490	1 37 16,99	—	6 37 16,35	73 37 16,44	—	37 12,61	+	3,83	8,969	
491	—	—	5 5 50,57	66 5 50,57	—	5 50,42	+	0,15	8,962	
492	5 57 4,21	5 57 6,25	—	72 57 5,23	57 7,96	57 3,70	-2,73	+	1,53	8,919
493	—	—	5 7 43,66	116 7 43,66	—	7 40,52	+	3,14	8,906	
494	—	1 56 15,58	4 56 13,40	80 56 13,84	—	56 10,95	+	2,89	8,897	
495	—	—	5 8 23,83	94 8 23,83	—	8 21,31	+	2,52	8,848	

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.		Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832	Green ^h Catal.	A. S. Catal.	Difference from		Annual Preces- sion
				No. 1831	No. 1832	No. 1833				Green.	A. S.	
				s.	s.	s.	h. m. s.	s.	s.	s.	s.	s.
496	5.6	65 Tauri	κ^1	—	1 21,78	—	4 15 21,80	21,99	21,51	-0,19	+0,29	+3,550
497	6.7	Tauri		—	—	5 25,38	4 15 25,41	—	25,10	—	+0,31	3,790
498	6.7	67 Tauri	κ^2	—	4 25,21	5 25,18	4 15 25,21	25,22	25,01	-0,01	+0,20	3,548
499	5	68 Tauri	δ^3	7 46,92	—	5 46,69	4 15 46,84	46,78	46,09	+0,06	+0,75	3,447
500	5	Reticuli	θ	—	4 48,78	—	4 15 48,72	—	46,89	—	+1,83	0,643
501	7	70 Tauri		—	—	5 2,61	4 16 2,63	—	2,02	—	+0,61	3,402
502	5	69 Tauri	ν^1	—	5 15,88	—	4 16 15,89	15,66	15,27	—	+0,62	3,564
503	5.6	71 Tauri		—	—	4 47,04	4 16 47,04	—	46,02	—	+1,02	3,395
504	5	73 Tauri	π	6 7,35	6 7,53	1 7,15	4 17 7,40	—	7,19	—	+0,21	3,375
505	6	72 Tauri	ν^2	—	—	5 15,29	4 17 15,32	—	14,93	—	+0,39	3,569
506	4.5	43 Eridani		—	3 43,82	—	4 17 43,80	—	43,54	—	+0,26	2,242
507	4	74 Tauri	ϵ	3 48,93	12 49,02	6 48,80	4 18 48,93	48,93	48,63	0,00	+0,30	3,479
508	6	75 Tauri		—	5 50,65	—	4 18 50,65	—	50,69	—	-0,04	3,414
509	7	76 Tauri		—	1 52,94	4 52,93	4 18 52,95	—	52,08	—	+0,87	3,377
510	5	77 Tauri	θ^1	6 59,14	—	—	4 18 59,14	59,13	58,68	+0,01	+0,46	3,405
511	5.6	78 Tauri	θ^2	2 4,76	—	6 4,67	4 19 4,71	4,76	4,67	-0,05	+0,04	3,403
512	6	79 Tauri	b	—	—	4 25,98	4 19 25,99	—	25,59	—	+0,40	3,340
513	5.6	44 Eridani	k^1	—	—	5 51,47	4 19 51,47	—	51,09	—	+0,38	3,089
514	5	Reticuli	η	—	4 5,94	—	4 20 5,88	—	5,48	—	+0,40	0,608
515	6	80 Tauri		—	—	11 34,38	4 20 34,40	—	34,01	—	+0,39	3,399
516	5.6	Tauri		—	—	3 57,23	4 20 57,25	—	56,89	—	+0,36	3,412
517	5.6	81 Tauri		—	—	2 4,49	4 21 4,51	—	4,18	—	+0,33	3,400
518	6	83 Tauri		—	6 10,49	—	4 21 10,49	—	10,01	—	+0,48	3,336
519	7	84 Tauri		—	—	5 35,68	4 21 35,70	—	35,27	—	+0,43	3,387
520	6	85 Tauri		—	3 16,64	2 16,50	4 22 16,59	—	16,03	—	+0,56	3,405
521	6	45 Eridani	k^2	—	4 17,28	1 17,35	4 23 17,29	—	16,92	—	+0,37	3,059
522	7	Tauri		—	—	6 8,00	4 24 8,03	—	7,50	—	+0,53	3,734
523	5	86 Tauri	ρ	6 19,64	6 19,31	—	4 24 19,48	—	19,05	—	+0,43	3,383
524	6	46 Eridani		—	—	6 43,88	4 25 43,88	—	43,47	—	+0,41	2,915
525	5	Cœli Scalp	δ	6 41,39	6 41,78	—	4 25 41,57	—	41,33	—	+0,24	1,830
526	6	Eridani		—	—	5 4,04	4 26 4,04	—	3,73	—	+0,31	2,913
527	5	47 Eridani		6 6,37	6 6,51	—	4 26 6,54	—	6,24	—	+0,30	2,883
528	1	87 Tauri	α	12 17,35	23 17,28	49 17,32	4 26 17,31	17,36	16,94	-0,05	+0,37	3,423
529	5	88 Tauri	d	4 25,76	—	—	4 26 25,76	—	25,47	—	+0,29	3,280
530	4	48 Eridani	ν^2	2 56,00	7 55,80	—	4 27 55,85	55,71	55,49	+0,14	+0,36	2,988
531	7	89 Tauri		—	—	5 33,07	4 28 33,09	—	32,70	—	+0,39	3,414
532	6	49 Eridani	k^3	—	—	4 34,60	4 28 34,60	—	34,21	—	+0,39	3,082
533	5	90 Tauri	c^1	2 46,58	3 46,63	—	4 28 46,62	—	46,35	—	+0,27	3,333
534	3	52 Eridani	ν^2	—	6 1,48	—	4 29 1,46	1,47	1,42	-0,01	+0,04	2,330
535	5.6	51 Eridani	c	—	—	4 9,13	4 29 9,13	—	8,86	—	+0,27	3,007
536	5.6	91 Tauri	σ^1	—	—	4 34,13	4 29 34,15	—	33,98	—	+0,17	3,409
537	5.6	92 Tauri	σ^2	—	—	6 40,36	4 29 40,38	—	40,54	—	-0,16	3,412
538	3	Doradus	α	—	3 22,78	3 22,92	4 30 22,78	—	22,04	—	+0,74	1,278
539	4	53 Eridani		—	6 29,43	—	4 30 29,42	29,53	29,16	-0,11	+0,26	2,745
540	5	93 Tauri	c^2	6 42,62	6 42,71	—	4 30 42,67	—	42,31	—	+0,36	3,327

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precessi- on.	
	No. 1831		No. 1832		No. 1833					Green.	A. S. C.		
496					5 5 51,08	68 5 51,08	5 51,78	5 51,28	-0,70	- 0,20	- 8,846		
497					56 53,10	58 56 53,10		56 49,12	+	3,98	8,842		
498	1 11 23,85				5 11 26,84	68 11 26,34	11 28,98	11 27,55	-2,64	- 1,21	8,841		
499	4 27 46,92	5 27 46,25			1 27 46,42	72 27 46,54	27 48,44	27 46,14	-1,90	+	0,40	8,813	
500	5 39 46,96	5 39 45,89			1	153 39 46,93		39 47,53	-	0,60	8,805		
501		5 27 1,94				74 27 1,94		26 54,75	+	7,19	8,792		
502	5 34 25,64	4 34 24,17				67 34 24,88		34 28,34	-	3,46	8,775		
503					5 46 15,33	74 46 15,33		46 10,02	+	5,31	8,735		
504	5 40 25,26	5 40 24,95				75 40 25,10		40 20,37	+	4,73	8,707		
505					5 23 21,67	67 23 21,67		23 22,29	-	0,62	8,697		
506	5 24 42,84	5 24 42,46				124 24 42,65	24 40,45	24 42,16	+ 2,20	+	0,49	8,656	
507	5 11 56,71	8 11 57,79				71 11 57,37	11 57,42	11 55,70	-0,05	+	1,67	8,574	
508		6 1 21,36				74 1 21,56		1 21,90	-	0,34	8,571		
509					5 38 25,83	75 38 25,83		38 24,49	+	1,34	8,569		
510	5 25 4,00	5 25 5,09				74 25 4,54	25 4,08	24 58,57	+ 0,46	+	5,97	8,560	
511		2 30 33,40			5 30 35,12	74 30 34,63	30 32,08	30 24,21	+ 2,55	+	10,42	8,552	
512	5 19 53,62					77 19 53,62		19 53,53	+	0,09	8,525		
513					5 59 51,36	88 59 51,36		59 47,39	+	3,97	8,490		
514	5 47 6,22	5 47 5,98				153 47 6,10		47 9,25	-	3,15	8,465		
515						74		44 5,31			8,434		
516	2 10 42,17	3 10 41,89				74 10 42,00		10 38,91	+	3,09	8,404		
517		3 40 51,48				74 40 51,48		40 46,03	+	5,45	8,394		
518					5 38 51,72	76 38 51,72		38 49,12	+	2,60	8,387		
519					5 15 55,74	75 15 55,74		15 48,88	+	6,86	8,353		
520	5 31 0,98	4 31 0,13				74 31 0,60		30 52,41	+	8,19	8,299		
521					5 24 42,94	90 24 42,94		24 39,30	+	3,64	8,218		
522					5 23 52,69	61 23 52,69		23 49,69	+	3,00	8,152		
523	5 30 58,80	5 30 58,87				75 30 58,83		30 49,59	+	9,24	8,136		
524	5 5 51,25	5 5 51,88				97 5 51,56		5 50,42	+	1,14	8,022		
525	5 19 7,80	4 19 7,07				135 19 7,48		19 10,19	-	2,71	8,022		
526					3 11 36,92	97 11 36,92		11 31,84	+	5,08	7,995		
527	5 35 15,67	5 35 18,14				98 35 16,90		35 18,47	-	1,57	7,991		
528	44 50 5,41	37 50 6,39	65 50 6,34			73 50 6,08	50 7,77	50 3,73	-1,69	+	2,35	7,979	
529	5 11 25,17	5 11 28,38				80 11 26,78		11 28,06	-	1,28	7,967		
530		5 42 4,43				93 42 4,43	42 8,59	42 6,61	-4,16	- 2,18	7,845		
531					5 18 38,64	74 18 38,64		18 35,19	+	3,45	7,797		
532	5 20 54,10					89 20 54,10		20 48,32	+	5,78	7,794		
533	5 49 58,74	5 49 59,20				77 49 58,97		49 58,79	+	0,18	7,778		
534	7 54 41,04	5 54 44,69				120 54 42,56	54 43,40	54 41,38	-0,84	+	1,18	7,755	
535					4 48 54,84	92 48 54,84		48 52,83	+	2,01	7,747		
536					5 32 20,14	74 32 20,14		32 16,15	+	3,99	7,714		
537					5 25 20,99	74 25 20,99		25 17,83	+	3,16	7,705		
538	5 23 46,53	5 23 45,42				145 23 46,01		23 33,75	+	12,26	7,644		
539	5 38 18,18	4 38 17,17				104 38 17,73	38 16,66	38 12,21	+ 1,07	+	5,52	7,638	
540	5 8 15,55	5 8 16,13				78 8 15,84		8 20,74	-	4,90	7,622		

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832			Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831	No. 1832	No. 1833	h. m. s.	s.	s.			s.	s.	
541	6.7	Tauri	—	4 49,45	2 49,70	4 30 49,55	—	49,14	—	+0,41	+3,733		
542	6	Eridani	—	—	5 36,45	4 31 36,43	—	36,11	—	+0,32	2,743		
543	5	Tauri	1	10,49	6 10,28	4 32 10,33	10,40	10,08	-0,07	+0,25	3,584		
544	7	95 Tauri	—	—	4 4,11	4 33 4,14	—	3,51	—	+0,63	3,614		
545	4	54 Eridani	6	5,82	6 5,86	4 33 5,84	5,86	5,60	-0,02	+0,24	2,616		
546	6	Eridani	—	—	5 7,97	4 33 7,94	—	7,76	—	+0,18	2,494		
547	6	Tauri	—	5 7,64	—	4 35 7,65	—	7,05	—	+0,60	3,306		
548	4.5	Cœli Scalp α	6	9,09	6 9,26	4 35 9,15	—	9,54	—	-0,39	1,939		
549	5	Cœli Scalp β	5	7,37	4 7,46	4 36 7,40	—	7,09	—	+0,31	2,111		
550	6	Tauri	—	6 28,74	—	4 36 28,76	—	28,31	—	+0,45	3,484		
551	5	57 Eridani	4	6,65	6 6,42	4 37 6,51	—	6,05	—	+0,46	2,990		
552	4.5	Camelopardi	—	3 24,49	6 24,29	4 37 24,47	24,17	24,02	+0,30	+0,45	5,881		
553	6	Eridani	—	5 43,52	—	4 39 43,50	—	43,32	—	+0,18	2,390		
554	6	58 Eridani	—	—	6 3,99	4 40 3,96	—	3,57	—	+0,39	2,678		
555	6	96 Tauri	—	5 7,86	—	4 40 7,85	—	7,26	—	+0,59	3,419		
556	4	1 Orionis	6	43,56	6 43,54	8 43,63	4 40 43,58	43,66	43,79	-0,08	-0,21	3,251*	
557	6	59 Eridani	—	—	5 59,35	4 40 59,33	—	59,51	—	-0,18	2,692		
558	5	2 Orionis	6	27,75	6 27,82	3 27,82	4 41 27,80	27,73	27,59	+0,07	+0,21	3,258	
559	5.6	97 Tauri	—	2 33,21	5 33,21	4 41 33,23	—	32,69	—	+0,54	3,490		
560	4	3 Orionis	5	15,68	6 15,96	—	4 42 15,83	15,97	16,12	-0,14	-0,29	3,185	
561	7	Aurigæ	—	—	5 18,02	4 42 18,05	—	17,42	—	+0,63	3,727		
562	6	60 Eridani	—	—	8 37,81	4 42 37,79	—	36,89	—	+0,90	2,694		
563	5	4 Orionis	5	2,34	6 2,16	—	4 43 2,24	1,62	—	+0,62	3,382		
564	5	7 Camelop.	—	5 50,51	—	4 43 50,55	—	50,60	—	-0,05	4,773		
565	6	5 Orionis	—	1 37,17	2 37,65	4 44 37,49	—	37,01	—	+0,48	3,117		
566	5	61 Eridani	—	6 38,77	—	4 44 38,77	—	38,50	—	+0,27	2,941		
567	6	6 Orionis	—	—	5 28,36	4 45 28,38	—	27,49	—	+0,89	3,317		
568	4.5	8 Orionis	1	30,31	4 30,33	3 30,44	4 45 30,37	30,39	29,54	-0,02	+0,83	3,116	
569	5.6	7 Orionis	—	—	5 39,22	4 45 39,23	—	38,51	—	+0,72	3,288		
570	4	3 Aurigæ	4	3,81	5 3,89	5 3,85	4 46 3,86	3,88	0,61	-0,02	+3,25	3,887	
571	5	9 Orionis	6	56,05	6 56,02	—	4 46 56,04	55,46	—	+0,58	3,367		
572	6.7	Tauri	—	—	5 37,61	4 47 37,63	—	37,34	—	+0,29	3,625		
573	6.7	Tauri	—	—	5 40,50	4 47 40,51	—	40,66	—	-0,15	3,453		
574	5	4 Aurigæ	6	51,73	6 51,93	—	4 47 51,84	51,63	—	+0,21	4,047		
575	6	98 Tauri	—	—	5 53,00	4 47 53,02	—	52,12	—	+0,90	3,654		
576	6	62 Eridani	—	—	5 8,13	4 48 8,13	—	7,73	—	+0,40	2,947		
577	4.5	10 Camelop.	2	30,34	1 30,11	3 30,36	4 48 30,37	30,45	30,49	-0,08	-0,12	5,286	
578	7	Tauri	—	5 27,66	—	4 49 27,67	—	27,85	—	-0,18	3,392		
579	5.6	10 Orionis	—	—	5 50,85	4 49 50,85	—	50,63	—	+0,22	3,100		
580	4	7 Aurigæ	4	55,67	5 55,70	4 49 55,72	55,76	55,32	-0,04	+0,40	4,280		
581	7	101 Tauri	—	1 6,20	4 6,14	4 50 6,16	—	5,96	—	+0,20	3,425		
582	4	8 Aurigæ	—	6 44,97	3 44,89	4 50 44,98	45,04	44,84	-0,06	+0,14	4,170		
583	5	63 Eridani	1	53,79	6 53,68	—	4 51 53,70	53,75	—	-0,05	2,831		
584	6	64 Eridani	—	—	5 7,81	4 52 7,80	—	6,94	—	+0,86	2,778		
585	4.5	102 Tauri	6	3,77	7 3,76	7 3,76	4 53 3,78	3,76	3,30	+0,02	+0,48	3,568	

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precession	
	No. 1831	No. 1832	No. 1833				Green.	A. S. C.		
541	—	—	5 43 6,16	61 43 6,16	—	43 4,58	—	+	1,58	7,614
542	4 41 29,02	—	—	104 41 29,02	—	41 22,14	—	+	6,88	7,548
543	5 22 20,10	4 22 20,23	5 22 20,85	67 22 20,43	22 21,26	22 20,13	—0,83	+	0,30	7,504
544	—	5 14 13,17	—	66 14 13,17	—	14 10,52	—	+	2,65	7,432
545	4 0 2,09	4 0 4,27	—	110 0 3,18	59 58,97	59 54,49	+4,21	+	8,69	7,426
546	5 49 2,36	1 49 1,56	—	114 49 2,23	—	48 55,62	—	+	6,61	7,423
547	1 10 24,40	5 10 25,76	—	79 10 25,53	—	10 25,53	—	+	0,00	7,264
548	5 11 19,58	5 11 21,27	3 11 18,59	132 11 20,00	—	11 16,60	—	+	3,40	7,257
549	5 28 34,61	5 28 35,70	—	127 28 35,16	—	28 43,47	—	—	8,21	7,179
550	—	5 34 35,54	—	71 34 35,54	—	34 31,24	—	+	4,30	7,154
551	5 34 4,04	5 34 5,10	—	93 34 4,57	—	34 4,46	—	+	0,11	7,101
552	5 57 18,09	5 57 18,67	—	23 57 18,38	57 22,09	57 20,69	—3,71	—	2,31	7,084
553	5 23 45,18	5 23 44,65	—	118 23 44,91	—	23 44,71	—	+	0,20	6,884
554	—	5 14 51,81	—	107 14 51,81	—	14 48,70	—	+	3,11	6,857
555	—	2 23 48,45	2 23 48,33	74 23 48,39	—	23 45,54	—	+	2,85	6,854
556	5 20 17,62	5 20 20,08	6 20 19,37	83 20 19,04	20 20,81	20 21,38	—1,77	—	2,34	6,804
557	—	—	5 37 58,12	106 37 58,12	—	37 57,36	—	+	0,76	6,781
558	5 23 42,48	4 23 41,75	5 23 42,85	81 23 42,41	23 42,53	23 41,40	—0,12	+	1,01	6,744
559	—	—	5 27 11,79	71 27 11,79	—	27 8,09	—	+	3,70	6,737
560	5 41 23,60	3 41 25,52	5 41 23,73	84 41 24,10	41 20,43	41 17,57	+3,67	+	6,53	6,677
561	—	—	5 23 29,36	62 23 29,36	—	23 27,33	—	+	2,03	6,677
562	—	1 30 51,18	4 30 53,97	106 30 53,41	—	30 51,43	—	+	1,98	6,647
563	5 2 11,92	5 2 11,04	—	76 2 11,48	—	2 10,44	—	+	1,04	6,615
564	5 31 39,06	5 31 37,44	—	36 31 38,25	—	31 40,22	—	—	1,97	6,551
565	—	4 46 32,82	1 46 32,63	87 46 32,72	—	46 24,90	—	+	7,82	6,483
566	4 44 27,39	5 44 24,84	—	95 44 26,11	—	44 19,82	—	+	6,29	6,480
567	1 51 17,31	1 51 16,33	4 51 17,93	78 51 17,56	—	51 19,18	—	—	1,62	6,414
568	5 50 26,39	3 50 27,06	—	87 50 26,64	50 29,32	50 25,07	—2,68	+	1,57	6,410
569	—	—	5 7 29,05	80 7 29,05	—	7 26,39	—	+	2,66	6,398
570	5 6 29,91	5 6 32,14	—	57 6 31,02	—	6 26,77	—	+	4,25	6,369
571	5 45 28,65	5 45 30,92	—	76 45 29,78	—	45 25,33	—	+	4,45	6,292
572	—	—	6 19 16,52	66 19 16,52	—	19 16,41	—	+	0,11	6,235
573	—	—	5 7 0,82	73 7 0,82	—	7 1,07	—	—	0,25	6,230
574	5 22 20,35	5 22 21,07	—	52 22 20,71	—	22 18,70	—	+	2,01	6,216
575	—	—	5 13 3,26	65 13 3,26	—	13 1,20	—	+	2,06	6,215
576	—	5 26 40,73	—	95 26 40,73	—	26 34,47	—	+	6,26	6,191
577	5 48 57,25	5 48 58,62	—	29 48 57,93	48 56,36	48 54,17	+1,57	+	3,76	6,166
578	1 43 15,32	—	—	75 43 15,32	—	43 14,88	—	+	0,44	6,081
579	—	—	5 33 0,33	88 33 0,33	—	33 0,82	—	—	0,49	6,049
580	5 26 4,82	6 26 3,83	5 26 3,89	46 26 4,16	26 5,50	26 4,35	—1,34	—	0,19	6,045
581	—	1 20 37,91	4 20 39,22	74 20 38,96	—	20 32,36	—	+	6,60	6,028
582	5 10 43,38	6 10 42,64	6 10 42,90	49 10 42,95	10 44,13	10 43,45	—1,18	—	0,50	5,976
583	5 30 55,27	4 30 56,69	—	100 30 55,90	—	30 54,36	—	+	1,54	5,877
584	—	2 17 21,26	3 47 26,19	102 47 25,42	—	47 24,03	—	+	1,39	5,858
585	5 39 21,25	5 39 23,97	4 39 23,58	68 39 23,96	39 27,48	39 25,94	—3,52	—	1,98	5,782

xxviii *Comparison of the Observed Places of the Principal Fixed Stars*

No.	Mag	Names.		Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832			Green ^h Catal.	A. S. Catal.	Difference from		Annual Preces- sion
				No. 1831	No. 1832	No. 1833	1832					Green.	A. S.	
							s.	s.	s.					
586	5	65 Eridani	↓	3 17,81	6 17,76	—	4	53	17,78	—	17,61	—	+0,17	+2,901
587	7	Tauri		—	4 21,29	2 21,35	4	54	21,32	—	21,10	—	+0,22	3,561
588	4	10 Aurigæ	η	5 44,71	5 44,84	5 44,72	4	54	44,79	44,75	44,47	+0,04	+0,32	4,182
589	5	11 Orionis	γ ¹	3 58,44	3 58,42	—	4	54	58,43	—	58,16	—	+0,27	3,416
590	5.6	Leporis		—	—	5 20,13	4	55	20,10	—	19,76	—	+0,34	2,428
591	6	1 Leporis		—	—	5 39,94	4	55	39,92	—	39,56	—	+0,36	2,522
592	5	104 Tauri	m	1 31,95	7 31,80	—	4	57	31,82	31,66	31,77	+0,16	+0,05	3,542*
593	5.6	106 Tauri	η	—	5 52,24	1 52,12	4	57	52,24	—	51,86	—	+0,38	3,541
594	6	Tauri		—	—	5 52,73	4	57	52,76	—	52,66	—	+0,10	3,642
595	6	105 Tauri		—	—	5 53,13	4	57	53,15	53,01	53,47	+0,14	—0,32	3,574
596	7	Tauri		—	—	5 2,60	4	58	2,63	—	2,22	—	+0,41	3,754
597	4	2 Leporis	ε	5 21,14	6 21,16	—	4	58	21,15	21,27	20,40	—0,12	+0,75	2,532
598	5	Cœli Scalp	γ ¹	1 22,20	6 22,12	—	4	58	22,11	—	21,72	—	+0,39	2,142
599	6	66 Eridani		—	—	5 27,57	4	58	27,57	—	27,43	—	+0,14	2,958
600	6	Leporis		—	—	5 27,35	4	58	27,32	—	26,81	—	+0,51	2,429
601	6	14 Orionis	i	—	—	4 44,37	4	58	44,38	—	44,41	—	—0,03	3,255
602	7	107 Tauri	l ²	—	—	2 56,07	4	58	56,09	—	55,81	—	+0,28	3,528
603	3	67 Eridani	β	6 35,69	6 35,73	1 35,88	4	59	35,72	36,01	35,58	—0,29	+0,14	2,948
604	5	15 Orionis	γ ²	2 5,49	6 5,45	—	5	0	5,47	—	5,22	—	+0,25	3,423
605	6	16 Orionis	h	—	3 5,24	2 5,56	5	0	5,38	—	5,17	—	+0,21	3,286
606	6	68 Eridani		—	—	5 24,42	5	0	24,42	—	24,12	—	+0,30	2,962
607	4	69 Eridani	λ	1 6,32	5 6,64	—	5	1	6,58	6,66	6,41	—0,08	+0,17	2,864
608	5	11 Aurigæ	μ	—	5 56,39	—	5	1	56,41	—	56,34	—	+0,07	4,088
609	6.7	Orionis	γ ³	—	—	4 3,18	5	2	3,20	—	2,58	—	+0,62	3,435
610	5	Doradus	ζ	1 38,24	6 38,52	—	5	2	38,45	—	39,71	—	—1,26	1,021
611	1	13 Aurigæ	α	17 17,46	19 17,45	33 17,16	5	4	17,36	17,43	17,11	—0,07	+0,25	4,402
612	5	14 Aurigæ	α	—	3 28,09	—	5	4	28,11	—	28,78	—	—0,67	3,894
613	4.5	3 Leporis	ι	—	6 27,83	—	5	4	27,82	27,81	27,50	+0,01	+0,32	2,791
614	5	17 Orionis	ρ ¹	4 30,79	1 30,72	—	5	4	30,78	—	30,46	—	+0,32	3,128
615	7	108 Tauri		—	6 22,14	—	5	5	22,15	—	21,53	—	+0,62	3,595
616	5	5 Leporis	μ	6 23,26	4 23,28	—	5	5	23,27	—	22,94	—	+0,33	2,686
617	4	Orionis		—	—	6 29,10	5	5	29,09	28,94	28,57	+0,15	+0,52	2,878
618	5	4 Leporis	κ	—	—	6 28,50	5	5	28,49	—	28,36	—	+0,13	2,765
619	1	19 Orionis	β	10 28,07	7 28,09	11 28,08	5	6	28,08	28,05	27,88	+0,03	+0,20	2,876
620	6	18 Orionis		—	—	5 44,45	5	6	44,47	—	44,17	—	+0,30	3,324
621	5	15 Aurigæ	λ	—	4 19,90	—	5	7	19,92	—	19,16	—	+0,76	4,157
622	6	Columbæ		—	—	5 40,42	5	8	40,39	—	40,10	—	+0,29	2,400
623	5.6	109 Tauri	π	—	—	4 11,24	5	9	11,27	—	10,48	—	+0,79	3,592
624	7	Tauri		—	—	6 18,77	5	9	18,79	—	18,70	—	+0,09	3,541
625	4	20 Orionis	τ	7 27,10	6 27,21	—	5	9	27,15	27,12	27,21	+0,03	—0,06	2,907
626	6	Leporis		—	—	5 57,52	5	9	57,50	—	—	—	—	2,750
627	7	Tauri		—	6 24,31	—	5	10	24,32	—	23,87	—	+0,45	3,527
628	6	21 Orionis		—	6 25,60	—	5	10	25,60	—	25,61	—	—0,01	3,123
629	6.7	Aurigæ		—	2 31,90	4 31,84	5	10	31,88	—	31,76	—	+0,12	3,803
630	5	Columbæ	ο	6 25,68	5 25,75	—	5	11	25,70	—	25,32	—	+0,38	2,151

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precessi- on.
	No.	1831	No.	1832	No.	1833				Green.	A. S. C	
586	5 25	34,23	5 25	36,10			97 25 35,17		25 33,52		+ 1,65	- 5,760
587			5 57	53,10			68 57 53,10		57 55,21		- 2,11	5,673
588	3 0	6,78	5 0	5,95	5 0	6,22	49 0 6,24	0 7,83	0 7,54	-1,59	- 1,30	5,642
589	5 50	17,18	5 50	18,43			74 50 17,80		50 11,48		+ 6,32	5,621
590	3 31	5,05	4 31	4,66			116 31 4,83		31 2,65		+ 2,18	5,588
591			4 2	25,33	1 2	24,62	113 2 25,19		2 31,02		- 5,83	5,560
592	5 35	16,40	5 35	17,06	7 35	15,66	71 35 16,29	35 16,93	35 13,95	-0,64	+ 2,34	5,406
593			5 48	41,10			69 48 41,10		48 38,05		+ 3,05	5,377
594			4 57	50,91	1 57	51,77	65 57 51,08		57 53,14		- 2,06	5,377
595					5 31	26,22	68 31 26,22	31 31,38	31 28,50	-5,16	- 2,28	5,375
596					5 57	18,99	61 57 18,99		57 21,08		- 2,09	5,364
597	5 36	5,93	5 36	5,32			112 36 5,62	36 10,05	36 2,33	-4,43	+ 3,29	5,335
598	5 43	4,96	5 43	8,31			125 43 6,63		43 1,23		+ 5,40	5,331
599					5 53	16,59	94 53 16,59		53 10,01		+ 6,58	5,326
600					5 23	4,09	116 23 4,09		23 0,64		+ 3,45	5,325
601					5 43	39,58	81 43 39,58		43 36,41		+ 3,17	5,303
602					5 22	0,51	70 22 0,51		21 56,02		+ 4,49	5,288
603	5 18	38,69	5 18	40,08			95 18 39,39	18 36,52	18 33,96	+2,87	+ 5,43	5,230
604	5 37	31,37	6 37	31,30			74 37 31,33		37 22,61		+ 8,72	5,190
605			1 23	43,56	4 23	45,75	80 23 45,31		23 33,91		+ 11,40	5,189
606	3 40	51,30			2 40	56,49	94 40 55,17		40 48,04		+ 7,13	5,162
607	5 58	32,39	5 58	31,63			98 58 31,96	58 32,10	58 31,85	-0,14	+ 0,11	5,102
608	5 43	26,15	5 43	24,95			51 43 25,55		43 29,97		- 4,42	5,035
609			2 10	9,86	4 10	12,22	74 10 11,47		10 7,83		+ 3,64	5,024
610	2 42	13,59	5 42	15,70			147 42 14,81		41 33,18		+ 41,63	4,965
611	40 10	57,39	25 10	57,57	47 10	57,80	44 10 57,61	10 56,14	10 58,03	+1,47	- 0,42	4,837
612							57		30 54,16			4,819
613	4 4	38,27	5 4	40,30			102 4 39,24	4 38,93	4 33,58	+0,31	+ 5,66	4,818
614			5 20	44,52			87 20 44,52		20 41,09		+ 3,43	4,815
615					5 54	52,25	67 54 52,25		54 54,34		- 2,09	4,744
616	5 24	35,74	1 24	37,07			106 24 35,96		24 34,50		+ 1,46	4,739
617	5 21	5,47					98 21 5,47	21 7,68		-2,21	- 1,42	4,732
618			5 8	44,12			103 8 44,12		8 45,51		- 1,42	4,732
619	29 24	5,06	14 24	4,51	23 24	5,43	98 24 5,07	24 7,78	24 5,40	-2,71	- 0,33	4,647
620			5 51	17,14			78 51 17,14		51 13,91		+ 3,23	4,626
621	5 3	39,48	5 3	39,48			50 3 39,48		3 32,20		+ 7,28	4,578
622					5 8	13,99	117 8 13,99		8 10,78		+ 3,21	4,459
623					5 5	4,75	68 5 4,75		5 2,75		+ 2,00	4,419
624					5 3	1,77	70 3 1,77		2 56,71		+ 5,06	4,407
625	5 1	55,63	4 1	56,38			97 1 55,97	1 57,62	1 56,11	-1,65	- 0,14	4,393
626	2 42	13,70			3 42	14,56	103 42 14,22		42 15,79		- 1,57	4,352
627					5 36	8,66	70 36 8,66		36 6,18		+ 2,48	4,314
628					5 35	5,36	87 35 5,36		35 3,22		+ 2,14	4,310
629					5 36	35,09	60 36 35,09		36 30,85		+ 4,24	4,304
630	5 3	55,89	5 3	58,53			125 3 57,21		3 36,48		+ 20,73	4,223

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.		Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832			Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion
				No. 1831	No. 1832	No. 1833						Green.	A. S.	
							s	s	s					
631	4.5	6 Leporis	λ	5 50,16	5 50,32	—	5	11	50,23	50,34	49,90	-0,11	+0,33	+2,758
632	5.6	7 Leporis	ν	1 11,75	6 11,57	—	5	12	11,61	—	11,27	—	+0,34	2,778
633	6	Columbæ		—	—	5 42,35	5	12	42,32	—	41,53	—	+0,79	2,386
634	7	22 Aurigæ		—	—	5 44,68	5	12	44,71	—	44,49	—	+0,22	3,786
635	5.6	22 Orionis	o	—	—	—	5	13	—	—	10,74	—	—	3,055
636	7	Aurigæ		—	—	5 49,09	5	13	49,12	—	48,92	—	+0,20	3,856
637	7	Aurigæ		—	—	4 49,32	5	13	49,35	—	49,28	—	+0,07	3,854
638	7	110 Tauri		—	—	6 55,83	5	13	55,85	—	55,47	—	+0,38	3,457
639	5	23 Orionis	m	5 0,33	6 0,54	—	5	14	0,44	—	0,37	—	+0,07	3,145
640	6	111 Tauri		—	—	6 37,55	5	14	37,57	—	36,78	—	+0,79	3,474
641	6	Eridani		—	4 52,70	2 53,18	5	14	52,94	—	52,51	—	+0,43	2,459
642	2	112 Tauri	β	12 40,69	15 40,61	—	5	15	40,66	40,70	40,53	-0,04	+0,13	3,779
643	6	8 Leporis	ξ	—	—	3 49,12	5	15	49,10	—	49,00	—	+0,10	2,739
644	5.6	29 Orionis	e	—	—	4 51,64	5	15	51,63	—	51,31	—	+0,32	2,884
645	5.6	27 Orionis	p	—	—	5 56,69	5	15	56,69	—	56,55	—	+0,14	3,044
646	5.6	25 Orionis	ψ^1	—	—	5 1,93	5	16	1,93	—	1,27	—	+0,66	3,107
647	4.5	28 Orionis	η	6 2,00	6 2,03	—	5	16	2,01	2,03	1,86	-0,02	+0,15	3,009
648	2	24 Orionis	γ	1 7,36	8 7,49	—	5	16	7,48	7,40	7,42	+0,08	+0,06	3,210
649	6	113 Tauri		—	—	5 23,58	5	16	23,60	—	23,02	—	+0,58	3,458
650	5	24 Aurigæ	ϕ	1 31,08	5 31,09	—	5	16	31,10	—	31,72	—	-0,62	3,964
651	5.6	115 Tauri		—	1 22,53	3 22,46	5	17	22,49	—	22,15	—	+0,34	3,490
652	5	114 Tauri	o	3 33,15	6 32,95	—	5	17	33,02	32,96	32,78	+0,06	+0,24	3,593
653	5	30 Orionis	ψ^2	6 2,37	6 2,42	—	5	18	2,40	2,34	2,08	+0,06	+0,32	3,136
654	6	116 Tauri		—	—	5 6,65	5	18	6,66	—	6,35	—	+0,31	3,438
655	6	117 Tauri		—	—	5 16,87	5	18	16,88	—	16,49	—	+0,39	3,472
656	7	Tauri		—	—	5 28,41	5	18	28,42	—	28,32	—	+0,10	3,452
657	7	118 Tauri		—	—	6 56,14	5	18	56,16	—	56,27	—	-0,11	3,681
658	6	Leporis		—	3 15,32	2 15,62	5	19	15,42	—	14,07	—	+1,35	2,787
659	4	9 Leporis	β	6 2,96	6 2,94	5 3,03	5	21	2,97	3,00	2,96	-0,03	+0,01	2,565
660	5	31 Orionis	t	4 12,26	6 12,28	—	5	21	12,27	—	11,43	—	+0,84	3,040
661	5	25 Aurigæ	α	6 47,99	6 47,94	—	5	21	47,96	—	39,75	—	—	3,893
662	5	32 Orionis	A	—	4 47,90	—	5	21	47,90	—	47,51	—	+0,39	3,202
663	5.6	119 Tauri		—	3 22,03	2 22,08	5	22	22,07	—	21,65	—	+0,42	3,508
664	6	33 Orionis	n	—	—	5 25,95	5	22	25,95	—	25,53	—	+0,42	3,141
665	2	34 Orionis	δ	6 25,54	16 25,63	1 25,72	5	23	25,63	25,69	25,55	-0,06	+0,08	3,058
666	6.7	Tauri		—	—	6 39,81	5	23	39,83	—	39,90	—	-0,07	3,557
667	6	120 Tauri		—	—	5 41,33	5	23	41,35	—	40,75	—	+0,60	3,507
668	5	36 Orionis	ν	1 48,49	4 48,54	—	5	23	48,53	—	48,85	—	-0,32	2,896
669	6	10 Leporis	o	—	—	5 56,68	5	23	56,66	—	56,12	—	+0,54	2,562
670	7	35 Orionis	u	—	—	5 21,69	5	24	21,71	—	21,02	—	+0,69	3,402
671	6	121 Tauri		—	—	4 11,82	5	25	11,84	—	11,48	—	+0,36	3,654
672	4	Columbæ	ϵ	1 14,94	5 15,03	—	5	25	15,01	15,00	14,80	+0,01	+0,21	2,122
673	3.4	11 Leporis	α	1 19,19	5 19,41	—	5	25	19,36	19,45	19,21	-0,09	+0,15	2,640
674	6.7	Aurigæ		—	—	5 23,26	5	25	23,28	—	23,15	—	+0,13	3,757
675	6	38 Orionis		—	—	5 26,61	5	25	26,61	—	26,17	—	+0,44	3,152

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precession			
	No.	1831	No.				1832	No.		1833	Green.	A. S. C.
631	5	21 21,79	5	21 20,79	—	103 21 21,29	21 23,18	21 21,05	—1,89 + 0,24 — 4,189			
632	1	29 33,95	6	29 37,24	—	102 29 36,77	—	29 37,02	— 0,25 — 4,159			
633	—	—	1	32 45,87	5	32 46,13	—	32 46,79	— 0,70 — 4,115			
634	—	—	—	—	5	13 55,04	—	13 53,71	+ 1,33 — 4,114			
635	—	—	—	—	5	33 19,66	—	33 10,05	+ 9,61 — 4,075			
636	—	—	—	—	5	56 27,95	—	56 27,09	+ 0,86 — 4,023			
637	—	—	—	—	5	1 17,95	—	1 19,21	— 1,26 — 4,022			
638	—	—	—	—	5	27 58,29	—	27 59,87	— 1,58 — 4,012			
639	5	37 27,38	5	37 27,09	—	86 37 27,23	—	37 26,69	+ 0,54 — 4,004			
640	—	—	—	—	5	46 46,80	—	46 48,75	— 1,95 — 3,953			
641	—	—	—	—	5	56 34,07	—	56 26,43	+ 7,64 — 3,928			
642	32	32 32,59	23	32 33,83	14	32 33,74	32 33,29	32 34,31	—0,07 — 1,09 — 3,863			
643	—	—	—	—	4	5 27,05	—	5 25,57	+ 1,48 — 3,848			
644	—	—	—	—	5	58 5,50	—	58 5,69	— 0,19 — 3,845			
645	—	—	—	—	6	3 34,02	—	3 31,01	+ 3,01 — 3,838			
646	—	—	—	—	3	18 50,62	—	18 50,40	+ 0,22 — 3,831			
647	5	33 28,48	5	33 28,81	—	92 33 28,65	33 30,84	33 29,95	—2,19 — 1,30 — 3,830			
648	6	48 29,80	5	48 31,36	5	48 32,59	48 34,21	48 35,25	—3,05 — 4,09 — 3,823			
649	—	—	—	—	1	27 23,83	—	27 21,82	— 0,99 — 3,801			
650	5	40 36,68	5	40 37,12	—	55 40 36,90	—	40 37,79	— 0,89 — 3,790			
651	—	—	—	—	5	11 24,06	—	11 24,00	— 0,84 — 3,717			
652	5	12 50,08	5	12 49,13	—	68 12 49,60	12 51,38	12 47,88	—1,78 + 1,72 — 3,702			
653	5	3 23,44	3	3 24,58	—	87 3 23,90	3 25,40	3 22,39	—1,50 + 1,51 — 3,658			
654	—	—	1	16 31,89	4	16 32,45	—	16 26,24	+ 6,10 — 3,653			
655	—	—	—	—	5	54 28,21	—	54 26,51	+ 1,70 — 3,639			
656	—	—	—	—	5	42 23,86	—	—	—			
657	—	—	—	—	5	59 41,76	—	59 39,12	+ 2,64 — 3,622			
658	2	2 55,23	2	2 54,79	—	102 2 55,03	—	2 52,46	+ 2,57 — 3,582			
659	5	53 58,45	5	53 57,48	—	110 53 57,96	53 56,80	53 54,03	+1,16 + 3,93 — 3,554			
660	5	13 53,43	5	13 53,98	—	91 13 53,71	—	13 50,93	+ 2,78 — 3,397			
661	5	56 24,55	5	56 24,37	—	57 56 24,46	—	56 28,97	— 4,51 — 3,387			
662	5	11 13,67	5	11 14,43	—	84 11 14,05	—	11 9,87	+ 4,18 — 3,337			
663	1	32 15,50	3	32 17,42	7	32 17,41	—	32 17,41	— 0,19 — 3,335			
664	—	—	—	—	6	50 33,19	—	50 35,88	— 2,69 — 3,287			
665	5	25 52,80	11	25 51,95	—	90 25 52,17	25 50,10	25 49,95	+2,07 + 2,22 — 3,280			
666	—	—	—	—	5	39 13,32	—	39 9,31	+ 4,01 — 3,194			
667	—	—	—	—	—	71 35 —	—	35 10,19	—			
668	2	25 53,45	2	25 52,06	—	97 25 52,75	—	25 55,52	— 2,77 — 3,175			
669	1	59 37,99	4	59 38,15	—	110 59 38,12	—	59 52,38	— 14,26 — 3,173			
670	—	—	—	—	6	49 13,05	—	49 8,83	+ 4,22 — 3,160			
671	—	—	—	—	5	4 48,26	—	4 50,21	— 1,95 — 3,148			
672	5	35 56,03	—	—	—	125 35 56,03	—	35 50,54	+ 5,49 — 3,115			
673	6	56 51,61	5	56 53,11	—	107 56 52,29	56 51,00	56 54,19	—1,71 — 1,90 — 3,043			
674	—	—	—	—	5	27 17,86	—	27 15,42	+ 2,44 — 3,034			
675	—	—	—	—	5	21 17,96	—	21 16,26	+ 1,70 — 3,029			

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832			Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831	No. 1832	No. 1833	h.	m.	s.			Green.	A. S.	
			s.	s.	s.				s.	s.	s.	s.	s.
676	4.5	37 Orionis ϕ^1	2 36,19	4 36,09	—	5 25 36,12	36,04	35,67	+0,08	+0,45	+3,286		
677	4	39 Orionis λ	—	6 53,33	—	5 25 53,33	53,41	53,00	-0,08	+0,33	3,297		
678	7	Tauri	—	1 39,66	5 39,51	5 26 39,56	—	39,19	—	+0,37	3,736		
679	6	41 Orionis θ^1	—	—	—	5 27 —	—	1,52	—	—	2,941		
680	5	42 Orionis c^1	5 6,10	6 6,09	—	5 27 6,09	—	5,53	—	+0,56	2,953		
681	6	43 Orionis θ^2	—	—	12 8,08	5 27 8,08	—	7,72	—	+0,36	2,940		
682	3.4	44 Orionis ι	2 13,00	3 13,11	—	5 27 13,07	13,15	13,48	-0,08	-0,41	2,928		
683	6	122 Tauri	—	—	4 19,16	5 27 19,18	—	18,66	—	+0,52	3,471		
684	3.4	123 Tauri ζ	6 36,56	6 36,53	—	5 27 36,55	36,51	35,81	+0,04	+0,74	3,577		
685	5	40 Orionis Φ^2	—	6 40,80	—	5 27 40,80	—	40,28	—	+0,52	3,282		
686	2.3	46 Orionis ϵ	2 41,50	10 41,50	—	5 27 41,50	41,50	41,35	0,00	+0,15	3,038		
687	5	26 Aurigæ l	—	—	6 50,15	5 27 50,17	—	50,85	—	-0,68	3,844		
688	6	125 Tauri	—	—	5 19,69	5 29 19,71	19,73	19,03	-0,02	+0,68	3,708		
689	6	Columbæ	—	—	3 36,28	5 29 36,25	—	36,07	—	+0,18	2,339		
690	4	48 Orionis σ	11 18,86	6 18,92	—	5 30 18,88	18,95	18,57	-0,07	+0,31	3,005		
691	6	47 Orionis ω	—	—	6 19,24	5 30 19,24	—	24,20	—	—	3,161		
692	6	Columbæ ν^1	—	—	5 38,71	5 30 38,68	—	38,06	—	+0,62	2,364		
693	5	49 Orionis d	1 45,19	6 45,55	—	5 30 45,50	—	45,68	—	-0,18	2,898		
694	6	Orionis	—	—	5 9,16	5 31 9,16	—	8,85	—	+0,31	2,983		
695	6	Columbæ ν^2	—	6 11,39	—	5 31 11,38	—	11,25	—	+0,13	2,339		
696	5.6	126 Tauri	—	6 35,32	—	5 31 35,33	—	34,66	—	+0,67	3,459		
697	4	Doradus β	—	6 10,70	—	5 32 10,64	—	10,18	—	+0,46	0,509		
698	3	50 Orionis ζ	6 16,92	17 17,09	2 17,12	5 32 17,02	17,09	17,12	-0,07	-0,10	3,021		
699	2	Columbæ α	7 34,14	6 34,11	12 34,26	5 33 34,15	34,17	33,81	-0,02	+0,34	2,167		
700	6	51 Orionis b	—	4 47,56	2 47,52	5 33 47,55	—	47,35	—	+0,20	3,100		
701	7	Tauri	—	—	6 26,06	5 34 26,08	—	26,11	—	-0,03	3,401		
702	6	12 Leporis	1 10,20	5 9,99	—	5 35 10,02	—	9,08	—	+0,94	2,519		
703	6	128 Tauri M	—	6 12,65	—	5 35 12,66	—	11,75	—	+0,91	3,449		
704	6	129 Tauri	—	1 5,92	5 6,00	5 37 6,01	—	5,52	—	+0,49	3,443		
705	4	13 Leporis γ	15 27,72	6 27,76	—	5 37 27,73	27,79	27,32	-0,06	+0,41	2,517		
706	6	130 Tauri N	—	—	5 38,74	5 37 38,76	—	38,49	—	+0,27	3,491		
707	6	131 Tauri O	—	—	6 39,12	5 37 39,14	—	39,30	—	-0,16	3,410		
708	6	133 Tauri	—	—	5 11,40	5 38 11,42	—	11,20	—	+0,22	3,396		
709	5	132 Tauri B	5 42,55	6 42,56	1 42,47	5 38 42,56	42,70	41,87	-0,14	+0,69	3,674		
710	6	52 Orionis	—	—	4 58,89	5 38 58,89	—	58,50	—	+0,39	3,217		
711	4.5	14 Leporis ζ	5 20,69	6 20,82	2 20,67	5 39 20,75	20,84	20,24	-0,09	+0,51	2,714		
712	5	Columbæ μ	—	4 45,64	—	5 39 45,62	—	45,24	—	+0,38	2,224		
713	3	53 Orionis π	2 47,38	6 47,44	—	5 39 47,43	47,40	47,20	+0,03	+0,23	2,840		
714	5	32 Aurigæ ν	—	6 50,91	—	5 39 50,93	—	50,63	—	+0,30	4,149		
715	5	31 Camelopard.	—	6 55,50	—	5 39 55,54	—	54,77	—	+0,77	5,358		
716	5.6	134 Tauri P	—	—	5 6,86	5 40 6,88	—	6,14	—	+0,74	3,365		
717	7	Tauri	—	—	5 23,10	5 40 23,13	—	22,87	—	+0,26	3,773		
718	5	30 Aurigæ ξ	1 46,25	5 46,34	—	5 40 46,36	—	46,28	—	+0,08	5,017		
719	6	135 Tauri	—	4 55,68	2 55,69	5 40 55,69	—	54,84	—	+0,85	3,406		
720	7	Tauri	—	—	5 14,84	5 41 14,86	—	15,09	—	-0,23	3,410		

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precessi- on.
	No. 1831		No. 1832		No. 1833					Green.	A. S. C	
	"	"	"	"	"	"						
676	5 37	56,66	5 37	55,84	—	—	80 37 56,25	—	37 53,08	—	—	—
677	5 11	12,99	5 11	12,20	5 11	12,44	80 11 12,54	11 8,42	11 4,05	+4,12	+	3,17 — 3,007
678	—	—	—	—	5 11	18,16	63 11 18,16	—	11 19,34	—	—	2,982
679	1 30	25,04	—	—	4 30	27,03	95 30 26,63	—	30 22,32	—	—	2,917
680	5 57	24,45	5 57	26,26	—	—	94 57 25,35	—	57 16,49	—	+	4,31 2,882
681	—	—	2 32	1,85	—	—	95 32 1,85	—	31 55,59	—	+	8,86 2,877
682	4 1	34,26	4 1	35,12	—	—	96 1 34,69	1 36,98	1 29,85	-2,29	+	6,26 2,873
683	—	—	—	—	5 4	14,63	73 4 14,63	—	4 16,55	—	—	4,84 2,865
684	6 58	0,92	4 58	0,62	6 58	2,27	68 58 1,36	58 3,69	58 1,84	-2,33	—	1,92 2,859
685	3 48	27,31	5 48	30,42	—	—	80 48 29,25	—	48 27,68	—	+	0,48 2,835
686	10 18	57,47	9 18	57,76	—	—	91 18 57,61	18 58,10	18 57,02	-0,49	+	1,57 2,827
687	5 37	0,86	—	—	—	—	59 37 0,86	—	36 49,72	—	+	0,59 2,825
688	1 12	18,16	—	—	4 12	20,33	64 12 19,90	12 19,34	12 16,00	+0,56	+	11,14 2,814
689	—	—	—	—	5 49	2,88	118 49 2,88	—	49 5,84	—	—	3,90 2,686
690	5 42	11,14	5 42	13,62	—	—	92 42 12,39	42 13,76	42 9,10	-1,37	+	2,96 2,657
691	—	—	6 58	53,96	—	—	85 58 53,96	—	58 50,04	—	+	3,29 2,598
692	—	—	5 58	25,75	—	—	117 58 25,75	—	58 25,29	—	+	3,92 2,590
693	5 18	47,11	4 18	46,12	—	—	97 18 46,67	—	18 44,27	—	+	0,46 2,568
694	—	—	—	—	5 39	52,08	93 39 52,08	—	39 53,05	—	+	2,40 2,558
695	—	—	—	—	5 47	42,96	118 47 42,96	—	47 46,54	—	—	0,97 2,525
696	—	—	—	—	6 33	37,09	73 33 37,09	—	33 35,29	—	—	3,58 2,520
697	4 36	1,70	5 36	1,62	—	—	152 36 1,64	—	36 0,50	—	+	1,80 2,489
698	4 2	15,61	16 2	18,36	—	—	92 2 17,81	2 17,94	2 16,64	-0,13	+	1,14 2,429
699	40 10	5,11	—	—	3 10	5,12	124 10 5,12	10 7,40	10 5,56	-2,28	+	1,17 2,427
700	—	—	5 36	47,78	—	—	88 36 47,78	—	36 46,82	—	—	0,44 2,313
701	—	—	—	—	4 54	35,48	75 54 35,48	—	—	—	+	0,96 2,296
702	—	—	1 27	39,42	—	—	112 27 39,42	—	27 38,09	—	—	— 2,241
703	—	—	5 59	35,54	—	—	73 59 35,54	—	59 34,25	—	+	1,33 2,176
704	—	—	5 15	2,06	—	—	74 15 2,06	—	14 57,31	—	+	1,29 2,175
705	5 30	29,28	5 30	29,05	3 30	28,51	112 30 29,01	30 31,05	30 30,59	-2,04	—	4,75 2,010
706	—	—	7 20	29,10	—	—	72 20 29,10	—	20 25,66	—	—	1,58 1,976
707	—	—	—	—	6 34	55,42	75 34 55,42	—	34 52,86	—	+	3,44 1,962
708	—	—	—	—	4 10	9,32	76 10 9,32	—	10 3,26	—	+	2,56 1,961
709	4 29	50,04	4 29	49,68	6 29	50,08	65 29 49,95	29 50,75	29 46,92	-0,80	+	6,06 1,915
710	—	—	—	—	6 36	41,92	83 36 41,92	—	36 42,66	—	+	3,03 1,871
711	5 53	29,35	5 53	30,94	—	—	104 53 30,14	53 27,10	53 23,45	+3,04	+	0,74 1,845
712	5 22	30,39	5 22	29,86	—	—	122 22 30,12	—	22 29,25	—	—	— 1,812
713	5 44	11,24	4 44	11,59	—	—	99 44 11,40	44 8,61	44 4,28	+2,79	+	0,87 1,775
714	5 54	37,51	2 54	36,75	—	—	50 51 37,29	—	51 37,90	—	—	7,12 1,774
715	5 9	47,31	—	—	—	—	30 9 47,31	—	9 42,39	—	+	0,61 1,772
716	—	—	3 24	31,61	2 24	32,79	77 24 32,14	—	24 27,00	—	+	4,92 1,770
717	—	—	—	—	5 5	29,57	62 5 29,57	—	5 28,14	—	+	5,14 1,748
718	4 20	40,59	—	—	—	—	34 20 40,59	—	20 35,61	—	+	1,43 1,725
719	—	—	—	—	6 45	5,43	75 45 5,43	—	44 55,31	—	+	4,98 1,694
720	—	—	—	—	5 36	48,91	75 36 48,91	—	36 44,13	—	+	10,12 1,677
											+	4,78 1,648

xxxiv *Comparison of the Observed Places of the Principal Fixed Stars*

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832			Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion	
			No.	1831		No.	1832				No.	1833		
					s.			s.						h.	m.	s.
721	7	Tauri												
722	4.5	136 Tauri C	13	46,29	5	46,29		5 42 46,29	46,31	46,01	-0,02	+1,42	+3,400	
723	6	137 Tauri D					5 49,98	5 42 50,00		49,69		+0,28	3,763	
724	6	Leporis					5 52,90	5 42 52,87		52,36		+0,31	3,403	
725	6	55 Orionis					5 15,54	5 43 15,53		15,22		+0,51	2,502	
												+0,31	2,891	
726	5.6	56 Orionis					5 43,37	5 43 43,37		43,04		+0,33	3,110	
727	6.7	Aurigæ					7 4,73	5 44 4,76		4,87		-0,11	3,890	
728	5	15 Leporis δ	4	5,89	5	5,92		5 44 5,90		5,67		+0,23	2,559	
729	5	54 Orionis ζ ¹	5	26,34	6	26,08		5 44 26,20	26,27	25,82	-0,07	+0,38	3,559	
730	5	Doradus δ				6	29,22	5 44 29,15		28,16		+0,99	0,102	
731	6	57 Orionis ζ ²				4	0,11	5 44 0,13	0,03	0,30	+0,10	-0,17	3,546	
732	3	Columbæ β	3	2,60	6	2,49		5 45 2,51	2,32	2,33	+0,19	+0,18	2,105	
733	3.4	33 Aurigæ δ				4	41,92	5 45 41,96	41,82	41,24	+0,14	+0,72	4,921	
734	1	58 Orionis α	7	4,67	19	4,71	54	4,75	5 46 4,74	4,79	4,66	-0,05	+0,08	3,241
735	2	34 Aurigæ β	5	12,36	1	12,44		5 47 12,38	12,40	12,25	-0,02	+0,13	4,398	
736	5	35 Aurigæ π			6	28,21		5 47 28,23		27,92		+0,31	4,445	
737	5.6	139 Tauri					5 34,35	5 47 34,38		34,12		+0,26	3,717	
738	4	37 Aurigæ θ	14	15,95	6	16,05		5 48 15,99	15,92	15,63	+0,07	+0,36	4,081	
739	4	16 Leporis η	6	45,56	6	45,38		5 48 45,47	45,50	45,06	-0,03	+0,41	2,730	
740	6	59 Orionis			6	40,98		5 49 40,98		40,54		+0,44	3,110	
741	5	Doradus ε			5	4,35		5 50 4,28		2,74		+1,54	-0,069	
742	6	60 Orionis B			6	11,50		5 50 11,50		11,01		+0,49	+3,080	
743	7	Aurigæ					5 27,12	5 50 27,15		26,90		+0,25	3,765	
744	5.6	2 Monocer A ²					6 5,90	5 51 5,89		5,58		+0,31	2,843	
745	6	141 Tauri Q ²					8 33,00	5 51 33,03		32,63		+0,40	3,618	
746	4	Columbæ γ	9	34,86	6	34,99	6	35,05	5 51 34,94	34,86	34,80	+0,08	+0,14	2,122
747	5	61 Orionis μ	6	8,55	6	8,49	6	8,65	5 53 8,57	8,59	7,85	-0,02	+0,72	3,295
748	5.6	64 Orionis ζ ⁴				6	30,74	5 53 30,76		30,94		-0,18	3,546	
749	5	1 Geminor. H	6	54,69	6	54,74		5 53 54,73	54,63	54,32	+0,10	+0,41	3,042	
750	5	62 Orionis ζ ³	3	56,55	6	56,65		5 53 56,63		56,67		-0,04	3,558	
751	5.6	3 Monocerotis			6	56,36		5 53 56,35		55,92		+0,43	2,818	
752	6	66 Orionis C			6	5,89		5 56 5,89		5,53		+0,36	3,165	
753	5.6	Leporis					6 29,77	5 56 29,74		29,19		+0,55	2,408	
754	6.7	2 Geminorum					6 34,17	5 56 34,20		33,98		+0,22	3,653	
755	7	Orionis					5 3,17	5 57 3,19		2,87		+0,32	3,440	
756	5.6	17 Leporis ρ			5	29,54	2	29,59	5 57 29,55		29,12		+0,43	2,673
757	4.5	67 Orionis ν	19	58,92	4	58,93	8	58,87	5 57 58,91	58,85	58,45	+0,06	+0,46	3,421
758	4.5	18 Leporis θ	1	33,10	7	33,28	6	33,28	5 58 33,26	33,24	33,28	+0,02	-0,02	2,712
759	6.7	Tauri			4	24,73	2	24,71	5 59 24,74		24,73		+0,01	3,614
760	6	3 Geminorum			8	31,89		5 59 31,90		31,54		+0,36	3,639	
761	5	Camelopardi			6	19,13		6 0 19,21		19,01		+0,20	6,616	
762	7	4 Geminorum			3	18,50		6 0 18,51		17,94		+0,57	3,636	
763	6	19 Leporis τ					6 23,26	6 0 23,24		22,77		+0,47	2,604	
764	5	40 Camelopardi	1	34,37	5	34,76		6 0 34,76		34,43		+0,33	5,385	
765	6	4 Monocer D ²					2	33,35	6 0 33,34					2,805

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precession
	No. 1831	No. 1832	No. 1833				Green.	A. S. C.	
721	" "	" "	" "	" "	" "	" "	" "	" "	" "
722	5 26 7,12	5 11 1,42	" "	70 11 1,42	" "	" "	" "	" "	1,644
723	" "	4 26 7,85	7 26 7,69	62 26 7,56	26 8,60	" "	-1,04	" "	1,517
724	" "	6 52 43,78	" "	75 52 43,78	" "	52 42,39	" "	+ 1,39	1,510
725	" "	" "	4 1 39,36	113 1 39,36	" "	1 43,84	" "	- 4,48	1,504
726	" "	" "	5 33 27,69	97 33 27,69	" "	34 9,99	" "	" "	1,472
727	" "	" "	5 11 33,57	88 11 33,57	" "	11 33,51	" "	+ 0,06	1,432
728	5 53 56,66	5 19 55,91	" "	58 19 55,91	" "	19 52,58	" "	+ 3,33	1,402*
729	5 45 48,04	5 53 56,26	" "	110 53 56,46	" "	53 56,09	" "	+ 0,37	0,777
730	6 47 55,78	6 45 48,79	5 45 48,43	69 45 48,43	45 45,67	45 45,24	+ 2,76	+ 3,19	1,371
731	" "	" "	" "	155 47 55,78	" "	47 54,13	" "	+ 1,65	1,357
732	" "	5 17 29,80	" "	70 17 29,80	17 26,90	17 22,49	+ 2,90	+ 7,31	1,321
733	5 50 12,17	4 50 10,63	" "	125 50 11,49	" "	50 20,58	" "	- 9,09	1,314
734	5 44 24,71	" "	" "	35 44 24,71	44 21,46	44 23,42	+ 3,25	+ 1,29	1,265
735	45 37 52,16	24 37 52,54	49 37 52,79	82 37 52,50	37 53,70	37 53,42	-1,20	- 0,92	1,226
736	6 4 50,55	5 4 51,02	" "	45 4 50,77	4 45,67	4 46,38	+ 5,10	+ 4,39	1,131
737	5 5 16,61	" "	" "	44 5 16,61	" "	5 17,61	" "	- 1,00	1,109
738	" "	" "	" "	64 " "	" "	4 31,13	" "	" "	1,097
739	5 48 27,83	5 48 27,73	2 48 27,60	52 48 27,75	48 29,38	48 26,94	-1,63	+ 0,81	1,038
740	5 12 13,50	5 12 15,01	" "	104 12 14,26	12 17,10	12 10,23	-2,84	+ 4,03	0,991
741	" "	" "	5 11 13,88	88 11 13,88	" "	11 9,25	" "	+ 4,63	0,912
742	5 56 35,25	4 56 32,70	" "	156 56 34,12	" "	56 52,04	" "	- 17,92	0,870
743	" "	5 28 12,33	" "	89 28 12,33	" "	28 9,52	" "	+ 2,81	0,867
744	" "	4 26 38,72	1 26 39,71	62 26 38,92	" "	26 40,66	" "	- 1,74	0,846
745	" "	" "	5 34 36,44	99 34 36,44	" "	34 30,94	" "	+ 5,50	0,787
746	" "	" "	5 36 41,12	67 36 41,12	" "	36 38,49	" "	+ 2,63	0,750
747	5 18 21,55	5 18 27,30	" "	125 18 25,92	" "	18 21,86	" "	+ 4,06	0,742
748	5 21 40,54	5 21 40,27	5 21 40,02	80 21 40,28	21 35,33	21 37,32	+ 4,95	+ 2,96	0,610
749	" "	5 18 54,90	" "	70 18 54,90	" "	18 48,24	" "	+ 6,66	0,577
750	5 44 7,60	6 44 7,59	5 44 7,61	66 44 7,60	44 8,77	44 6,63	-1,17	+ 0,97	0,543
751	5 52 0,45	4 51 57,74	" "	69 51 59,25	" "	51 56,05	" "	+ 3,20	0,540
752	4 36 24,61	" "	" "	100 36 24,61	" "	36 23,32	" "	+ 1,29	0,539
753	" "	6 50 20,40	" "	85 50 20,40	" "	50 19,86	" "	+ 0,54	0,351
754	" "	4 17 21,52	" "	116 17 21,52	" "	17 21,36	" "	+ 0,16	0,314
755	" "	4 21 15,28	" "	66 21 15,28	" "	21 6,84	" "	+ 8,44	0,311
756	" "	5 27 44,41	" "	74 27 44,41	" "	26 40,66	" "	+ 3,75	0,268
757	" "	" "	5 28 44,63	106 28 44,63	" "	28 48,06	" "	- 3,43	0,228
758	11 13 12,25	5 13 13,56	11 13 12,87	75 13 12,75	13 7,21	13 2,83	+ 5,54	+ 9,92	0,187
759	7 55 37,34	4 55 39,42	" "	104 55 38,10	55 35,48	55 39,58	+ 2,62	- 1,48	0,134
760	" "	5 47 24,68	" "	67 47 24,68	" "	47 27,85	" "	- 3,17	0,062
761	" "	5 52 1,35	" "	66 52 1,35	" "	52 1,73	" "	- 0,38	0,052
762	5 38 12,01	5 38 12,08	" "	20 38 12,04	" "	38 6,44	" "	+ 5,60	+ 0,009
763	" "	" "	5 58 46,12	66 58 46,12	" "	58 45,15	" "	+ 0,97	0,016
764	" "	" "	5 9 7,12	109 9 7,12	" "	9 6,13	" "	+ 0,99	0,026
765	4 58 7,02	5 58 5,58	" "	29 58 6,22	" "	58 1,07	" "	+ 5,15	0,034
766	" "	" "	4 7 38,77	101 7 38,77	" "	7 38,35	" "	+ 0,42	0,038

xxxvi *Comparison of the Observed Places of the Principal Fixed Stars*

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832			Greenh Catal.	A. S. Catal.	Difference from		Annual Preces- sion		
			No. 1831			No. 1832					No. 1833			Green.	A. S.
			s.	s.	s.	h.	m.	s.			s.	s.	s.		
766	7	5 Geminorum				6 13,96	6 1 13,98		s.	13,90		+ 0,08	+ 3,676		
767	5	Columbæ θ	5 46,24	6 46,15			6 1 46,18			45,68		+ 0,50	2,053		
768	6	68 Orionis E^1				4 4,42	6 2 4,44			3,78		+ 0,66	3,550		
769	6.7	6 Geminorum				5 7,76	6 2 7,78			7,24		+ 0,54	3,634		
770	5	1 Lyncis α	4 24,85	2 25,04			6 2 24,94			24,69		+ 0,25	5,535		
771	6	69 Orionis f^1				5 22,12	6 2 22,14			21,51		+ 0,63	3,455		
772	5	70 Orionis ξ	8 23,28	6 23,27			6 2 23,28			23,13		+ 0,15	3,407		
773	6	Canis Maj.		6 53,74			6 3 53,72			53,25		+ 0,47	2,384		
774	4	44 Aurigæ π	5 40,46	1 40,28			6 4 40,43		40,34	39,66	+ 0,09	+ 0,77	3,825		
775	4.5	7 Geminor. η	2 44,18	5 44,16		7 44,20	6 4 44,20		44,24	43,82	- 0,04	+ 0,38	3,623		
776	4.5	2 Lyncis β		4 47,81		2 47,50	6 4 47,78		47,51	47,31	+ 0,27	+ 0,47	5,297		
777	5.6	71 Orionis E^2	1 57,76	5 57,72			6 4 57,74			58,02		- 0,28	3,533		
778	6	72 Orionis f^2		5 44,03			6 5 44,04			43,56		+ 0,48	3,456		
779	7	8 Geminor.				5 2,96	6 6 2,99			2,72		+ 0,27	3,663		
780	6	73 Orionis k^1				6 18,79	6 6 18,81			18,44		+ 0,37	3,367		
781	4.5	5 Monocer α	18 39,74	6 39,80		14 39,80	6 6 39,77		39,79	39,49	- 0,02	+ 0,28	2,922		
782	7	9 Geminorum		5 43,77			6 6 43,78			43,26		+ 0,52	3,657		
783	5.6	74 Orionis k^2				5 0,65	6 7 0,67			0,62		+ 0,05	3,360		
784	7	Aurigæ		4 49,05		2 48,91	6 7 49,01			48,90		+ 0,11	3,756		
785	6	75 Orionis l				5 51,51	6 7 51,51			51,25		+ 0,26	3,303		
786	7	11 Geminorum		5 5,69		3 5,61	6 9 5,67			5,14		+ 0,53	3,649		
787	4.5	Columbæ π	16 34,56	6 34,61			6 10 34,57		34,74	34,56	- 0,17	+ 0,01	2,130		
788	6	7 Monocerotis		5 37,32			6 11 37,32			37,60		- 0,28	2,886		
789	5	46 Aurigæ d	3 57,31	5 57,27			6 11 57,30			57,00		+ 0,30	4,623		
790	3	13 Geminor μ	8 47,66	7 47,82		7 47,71	6 12 47,75		47,83	47,44	- 0,08	+ 0,31	3,623		
791	3	1 Canis Maj. ζ	6 51,94	6 51,95		6 51,96	6 13 51,94		52,01	51,95	- 0,07	- 0,01	2,298		
792	7	Geminorum		6 22,78			6 14 22,79			22,60		+ 0,19	3,694		
793	6	Monocerotis		6 27,27			6 14 27,27			27,09		+ 0,18	3,158		
794	5.6	8 Monocer b		6 52,00			6 14 52,00			51,82		+ 0,18	3,177		
795	7	Geminorum		5 19,30			6 15 19,31			18,82		+ 0,49	3,648		
796	7	Geminorum				6 20,08	6 15 20,11			19,87		+ 0,24	3,645		
797	2.3	2 Canis Maj. β	7 18,10	6 18,15		20 18,25	6 15 18,19		18,21	17,94	- 0,02	+ 0,25	2,638		
798	4	3 Canis Maj λ	2 58,63	6 58,52			6 15 58,54		58,47	58,29	+ 0,07	+ 0,25	2,191		
799	6	15 Geminorum				5 45,75	6 17 45,77			45,37		+ 0,40	3,576		
800	6	48 Aurigæ z				4 46,16	6 17 46,19			45,96		+ 0,23	3,856		
801	6	16 Geminorum				5 57,20	6 17 57,22			56,81		+ 0,41	3,569		
802	6	77 Orionis D^1				5 36,23	6 18 36,23			36,33		- 0,10	3,077		
803	6	78 Orionis D^2				6 40,61	6 18 40,61			40,40		+ 0,21	3,064		
804	5	18 Geminorum ν	18 59,26	7 59,24		7 59,08	6 18 59,21		59,17	58,76	+ 0,04	+ 0,45	3,561		
805	7	17 Geminorum		5 45,69			6 17 45,70			9,12			3,588		
806	6	10 Monocerotis		6 39,98			6 19 39,98			39,84		+ 0,14	2,959		
807	1	Argus α	12 13,22			12 13,42	6 20 13,28			13,23		+ 0,05	1,327		
808	7	Geminorum		2 29,29		5 29,32	6 21 29,34			29,04		+ 0,30	3,918		
809	6.7	19 Geminorum				7 57,75	6 21 57,77			57,36		+ 0,41	3,450		
810	5	Canis Maj. D^1	5 56,98	6 56,70			6 21 56,82			56,67		+ 0,15	2,221		

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precessi- on.	
	No. 1831		No. 1832		No. 1833					Green.	A. S. O		
	"	"	"	"	"	"							"
766					5 33	5,06	65 33 5,06		33 2,17				
767	4 14	1,76	5 14	3,08			127 14 2,49		14 2,90	+	2,89	+0,097	
768			1 10	52,67	4 10	52,89	70 10 52,85		10 44,01	—	0,41	0,148	
769			5 3	41,49			67 3 41,49		3 39,94	+	8,84	0,170	
770	4 26	32,57	5 26	33,01			28 26 32,82		26 38,73	+	1,55	0,175	
										—	5,91	0,195	
771			6 50	19,95			73 50 19,95		50 16,88				
772	4 45	43,73	5 45	40,14			75 45 41,74		45 40,74	+	3,07	0,196	
773			5 7	20,80			117 7 20,80		7 19,50	+	1,00	0,199	
774	5 26	56,85	5 26	56,09	5 26	57,21	60 26 56,72	26 53,58	26 57,63	+	1,30	0,333	
775	10 27	5,65	4 27	6,47	5 27	6,63	67 27 6,08	27 9,47	27 7,90	+3,14	—	0,91	0,396
										—3,39	—	1,82	0,403
776	7 56	27,19	5 56	27,62	5 56	26,66	30 56 27,16	56 26,68	56 26,15	+0,48	+	1,01	0,403
777					5 47	41,77	70 47 41,77		47 32,65	+	9,12	0,424	
778					5 48	44,34	73 48 44,34		48 39,13	+	5,21	0,491	
779			5 59	0,79			65 59 0,79		58 59,86	+	0,93	0 518	
780					5 24	12,72	77 24 12,72		24 15,62	—	2,90	0,542	
781	5 13	48,75	9 13	47,85			96 13 48,17	13 48,38	13 43,75	—0,21	+	4,42	0,574
782					5 12	36,69	66 12 36,69		12 39,37	—	2,68	0,577	
783	5 41	17,61			5 41	18,29	77 41 17,95		41 15,88	+	2,07	0,603	
784			5 43	57,05			62 43 57,05		43 56,15	+	0,90	0,672	
785			5 0	19,48			80 0 19,48		0 13,23	+	6,25	0,677	
786			5 28	19,93			66 28 19,93		28 18,89	+	1,04	0,784	
787	5 5	26,03	5 5	25,68			125 5 25,85		5 22,00	+	3,85	0,918	
788			5 45	30,52			97 45 30,52		45 29,17	+	1,35	1,008	
789	5 38	15,33	5 38	14,11			40 38 14,72		38 16,08	—	1,36	1,008	
790	20 24	27,86	5 24	26,69	18 24	27,56	67 24 27,59	24 29,67	24 27,46	—2,08	+	0,13	1,107
791	5 59	42,83	5 59	43,71			119 59 43,27	59 37,70	59 44,18	+5,57	—	0,91	1,205
792			6 52	19,95			64 52 19,95		52 16,25	+	3,70	1,246	
793	3 9	28,02	2 9	29,67			86 9 28,68		9 26,56	+	2,12	1,254	
794			1 19	47,25	4 19	47,58	85 19 47,52		19 36,16	+	11,36	1,290	
795			7 28	24,84			66 28 24,84		28 26,70	—	1,86	1,328	
796			3 35	17,21			66 35 17,21		35 17,35	—	0,14	1,329	
797	27 52	40,11	5 52	39,92	5 52	40,29	107 52 40,08	52 41,98	52 48,36	—1,90	—	8,28	1,329
798	5 21	20,55	5 21	19,03			123 21 19,79	21 22,50	21 26,02	—2,71	—	6,23	1,389
799			5 6	54,99			69 6 54,99		6 55,01	—	0,02	1,541	
800			5 24	44,47			59 24 44,47		24 39,22	+	5,25	1,541	
801			5 24	40,35			69 24 40,35		24 36,28	+	4,07	1,558	
802					6 36	28,13	89 36 28,13		36 24,30	+	3,83	1,616	
803					4 11	0,40	90 11 0,40		10 53,91	+	6,49	1,622	
804	5 41	24,20	6 41	22,38	5 41	24,32	69 41 23,68	41 21,39	41 18,67	+2,29	+	5,01	1,648
805					5 7	1,90	69 7 1,90		7 3,86	—	1,96	1,663	
806			5 30	57,98			94 39 57,98		39 56,51	+	1,47	1,709	
807	59 36	22,19	15 36	23,38	13 36	21,78	142 36 22,33		36 31,02	—	8,69	1,762	
808			5 26	2,67			57 26 2,67		26 1,62	+	1,05	1 865	
809			5 59	10,15			73 59 10,15		59 7,24	+	2,91	1,907	
810	6 28	44,84	5 28	42,47			122 28 43,76		28 47,17	—	3,41	1,910	

xxxviii *Comparison of the Observed Places of the Principal Fixed Stars*

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832			Green ^h Catal.	A. S. Catal.	Difference from		Annual Preces- sion
											Green.	A. S.	
			No. 1831	No. 1832	No. 1833								
			s.	s.	s.	h.	m.	s.	s.	s.	s.	s.	
811	7	21 Geminorum	—	—	5 30,10	6 22	30,12	—	—	30,32	—	-0,20	+ 3,497
812	6	12 Monocer <i>e</i>	—	6 24,19	—	6 23	24,19	—	—	24,22	—	-0,03	3,184
813	5	13 Monocer <i>f</i>	6 49,18	5 49,12	—	6 23	49,15	—	—	49,04	—	+0,11	3,242
814	6.7	Geminorum	—	6 3,84	—	6 24	3,86	—	—	3,50	—	+0,36	3,406
815	6	Canis Maj. <i>C</i>	—	5 7 37	—	6 24	7,35	—	—	7,61	—	-0,20	2,372
816	6	Canis Maj.	—	1 32,15	4 32,09	6 24	32,08	—	—	32,01	—	+0,07	2,638
817	6	49 Aurigæ <i>c</i>	—	—	5 36,91	6 21	36,94	—	—	37,45	—	-0,51	3,779
818	5.6	4 Canis Maj <i>ξ</i> ¹	—	—	4 51,58	6 24	51,55	—	—	50,95	—	+0,60	2,495
819	6	14 Monocer <i>g</i>	—	—	5 40,53	6 25	40,54	—	—	40,23	—	+0,31	3,248
820	3	24 Geminor. <i>γ</i>	3 0,06	4 0,34	2 0,19	6 28	0,23	—	0,29	59,93	-0,06	+0,30	3,462
821	5	5 Canis Maj <i>ξ</i> ²	4 1,26	2 1,01	—	6 28	1,17	—	—	0,74	—	+0,43	2,510
822	6	54 Aurigæ	—	6 57,33	—	6 28	57,35	—	—	57,03	—	+0,32	3,785
823	5	7 Canis Maj <i>ν</i> ²	4 21,39	6 21,48	—	6 29	21,44	—	—	21,32	—	+0,12	2,609
824	5.6	8 Canis Maj <i>ν</i> ³	—	6 30,20	—	6 30	30,19	—	—	29,92	—	+0,27	2,635
825	7	25 Geminorum	—	3 45,50	2 45,31	6 30	45,45	—	—	44,84	—	+0,01	3,782
826	5	55 Aurigæ	2 50,99	4 50,83	—	6 30	50,91	—	—	50,86	—	+0,05	4,377
827	6	15 Monocer <i>h</i>	—	4 43,49	2 43,60	6 31	43,54	—	—	43,40	—	+0,14	3,302
828	5.6	26 Geminor <i>μ</i>	—	—	7 37,18	6 32	37,20	—	37,25	37,13	-0,05	+0,07	3,493
829	3	Argus <i>ν</i>	4 37,24	6 37,39	—	6 32	37,32	—	—	37,32	—	0,00	1,832
830	5	42 Camelopardi	5 23,39	—	—	6 33	23,39	—	—	23,12	—	+0,27	6,299
831	3	27 Geminor <i>ε</i>	5 35,69	4 35,62	8 35,52	6 33	35,62	—	35,63	35,28	0,01	+0,34	3,693
832	6	28 Geminorum	—	4 6,61	2 6,48	6 34	6,59	—	6,33	6,05	+0,26	+0,54	3,805
833	5.6	30 Geminor <i>ξ</i> ¹	—	6 30,92	—	6 34	30,93	—	—	29,95	—	+0,98	3,383
834	5	Camelopardi	—	5 26,75	—	6 35	26,88	—	—	26,36	—	+0,52	3,868
835	5	43 Camelop. <i>q</i>	—	6 32,76	—	6 35	32,84	—	—	34,81	—	—	6,520
836	4	31 Geminor <i>ξ</i> ²	6 51,75	5 51,54	—	6 35	51,66	—	51,53	51,57	+0,13	+0,09	3,375
837	6	16 Monocerotis	—	6 22,66	—	6 37	22,66	—	—	22,02	—	+0,64	3,271
838	1	9 Canis Maj <i>α</i>	21 44,62	10 44,59	77 44,67	6 37	44,63	—	44,55	44,56	+0,08	+0,07	2,643*
839	5	17 Monocer <i>i</i>	4 12,47	4 12,43	—	6 38	12,45	—	—	12,03	—	+0,42	3,258
840	5	18 Monocer <i>k</i>	1 5,77	5 6,09	—	6 39	6,05	—	—	5,81	—	+0,24	3,128
841	6	11 Canis Maj <i>↓</i> ²	—	6 11,33	—	6 39	11,32	—	—	10,78	—	+0,54	2,734
842	6	33 Geminor <i>G</i>	—	6 9,52	—	6 40	9,53	—	—	8,56	—	+0,97	3,455
843	6	35 Geminorum	—	—	6 56,40	6 40	56,42	—	—	56,22	—	+0,20	3,386
844	6.7	36 Geminor <i>d</i>	—	6 28,89	—	6 41	28,90	—	—	28,62	—	+0,28	3,598
845	5	Arginup <i>x</i>	7 36,40	6 36,38	—	6 41	36,38	—	—	36,43	—	-0,05	2,051
846	5	34 Geminor <i>β</i>	3 42,62	5 42,43	—	6 41	42,52	—	—	42,14	—	+0,38	3,960
847	5	15 Lyncis <i>e</i>	4 42,39	1 42,44	—	6 42	42,34	—	—	41,78	—	+0,56	5,222
848	4	13 Canis Maj <i>κ</i> ²	6 34,06	6 34,13	7 34,11	6 43	34,09	—	34,13	33,91	-0,04	+0,18	2,238
849	5	Canis Maj	7 45,69	5 45,83	—	6 44	45,74	—	—	45,70	—	+0,04	2,178
850	6	37 Geminorum	—	5 58,54	2 58,47	6 44	58,53	—	—	58,01	—	+0,52	3,695
851	5.6	38 Geminor <i>el</i>	—	—	5 9,78	6 45	9,80	—	—	9,65	—	+0,15	3,380
852	4	Argus <i>τ</i>	—	6 16,24	1 45,93	6 45	46,16	—	—	45,85	—	+0,31	1,484
853	5.6	15 Canis Maj <i>π</i> ¹	—	—	6 17,08	6 46	17,06	—	—	16,84	—	+0,22	2,591
854	5	14 Canis Maj <i>θ</i>	—	6 23,37	—	6 46	23,36	—	—	23,01	—	+0,35	2,794
855	7	Geminorum	—	6 30,24	—	6 46	30,25	—	—	29,90	—	+0,35	3,492

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precession	
	No. 1831	No. 1832	No. 1833				Green.	A. S. C.		
811	—	5 6 19,49	—	72 6 19,49	—	6 17,37	—	—	—	
812	—	4 1 57,15	1 1 56,04	85 1 56,93	—	1 47,73	+	1,62	+1,955	
813	5 33 4,08	5 33 0,58	—	82 33 2,33	—	33 6,48	+	9,20	2,034	
814	—	—	5 43 26,80	75 43 26,80	—	43 20,57	—	4,15	2,070	
815	—	5 39 25,37	—	117 39 25,37	—	39 27,03	+	6,23	2,090	
							—	1,66	2,099	
816	—	4 56 46,34	—	107 56 46,34	—	56 49,57	—	3,23	2,134	
817	—	5 51 18,68	—	61 51 18,68	—	51 20,12	—	1,44	2,138	
818	—	5 17 9,11	—	113 17 9,11	—	18 10,44	—	1,33	2,162	
819	—	5 18 15,65	—	82 18 15,65	—	18 16,32	—	0,67	2,231	
820	10 27 50,90	5 27 51,74	16 27 51,43	73 27 51,31	27 53,66	27 51,35	—2,35	—	0,04	2,432
821	5 50 11,08	5 50 10,88	—	112 50 10,98	—	50 7,83	+	3,15	2,436	
822	—	8 35 48,62	—	61 35 48,62	—	35 50,69	—	2,07	2,514	
823	5 7 4,24	5 7 3,68	—	109 7 3,96	—	7 3,72	+	0,24	2,553	
824	—	5 5 50,72	—	108 5 50,72	—	5 49,18	+	1,54	2,652	
825	—	2 39 24,37	—	61 39 24,37	—	39 22,45	+	1,92	2,670	
826	5 19 27,37	5 19 28,14	—	45 19 27,75	—	19 24,34	+	3,41	2,677	
827	5 57 27,21	3 57 27,45	—	79 57 27,33	—	57 22,25	+	5,08	2,756	
828	—	5 11 53,32	—	72 11 53,32	11 51,84	11 51,21	+1,48	+	2,11	2,833
829	5 3 8,02	5 3 5,48	—	133 3 6,75	—	3 10,64	—	3,89	2,838	
830	5 15 26,34	5 15 24,94	—	22 15 25,64	—	15 26,56	—	0,92	2,891	
831	16 42 40,30	6 42 42,83	23 42 41,68	64 42 41,33	42 39,04	42 36,57	+2,29	+	4,76	2,916
832	—	5 52 4,35	—	60 52 4,35	52 2,39	52 0,70	+1,96	+	3,65	2,960
833	—	1 36 31,87	4 36 31,92	76 36 32,51	—	36 34,91	—	2,40	2,996	
834	5 49 39,46	5 49 40,82	—	12 49 40,14	—	49 40,70	—	0,56	3,061	
835	5 55 51,48	5 55 51,95	—	20 55 51,71	—	55 49,66	+	2,05	3,080	
836	5 55 49,01	5 55 48,57	1 55 48,65	76 55 48,77	55 49,24	55 45,24	—0,47	+	3,53	3,113
837	—	5 14 32,79	—	81 14 32,79	—	14 29,35	+	3,44	3,244	
838	52 29 30,40	24 29 30,08	54 29 30,74	106 29 30,46	29 31,08	29 27,58	—0,62	+	2,88	4,418*
839	5 47 18,42	5 47 18,22	—	81 47 18,32	—	47 17,85	+	0,47	3,316	
840	5 24 37,24	5 24 37,78	—	87 24 37,51	—	24 31,34	+	6,17	3,394	
841	—	5 15 6,70	—	104 15 6,70	—	15 0,70	+	6,00	3,402	
842	—	5 36 47,15	—	73 36 47,15	—	36 45,75	+	1,40	3,483	
843	—	5 24 4,46	—	76 24 4,46	—	24 1,48	+	2,98	3,551	
844	—	5 2 51,89	—	68 2 51,89	—	2 51,28	+	0,61	3,597	
845	5 44 53,96	5 44 51,86	—	127 44 52,91	—	44 56,30	—	3,39	3,613	
846	5 50 42,31	5 50 44,38	—	55 50 43,35	—	50 43,43	—	0,08	3,615	
847	5 22 9,30	5 22 6,90	—	31 22 8,10	—	22 11,50	—	3,40	3,697	
848	5 19 9,35	4 19 9,69	—	122 19 9,50	19 9,20	19 8,20	+0,30	+	1,30	3,781
849	5 10 24,22	5 10 25,96	—	124 10 25,09	—	10 27,88	—	2,79	3,883	
850	—	5 25 21,22	—	64 25 21,22	—	25 17,72	+	3,50	3,897	
851	5 36 55,81	—	1 36 57,74	76 36 56,13	—	36 55,14	+	0,99	3,914	
852	5 25 4,84	5 25 4,86	—	140 25 4,85	—	24 59,70	+	5,15	3,971	
853	5 1 23,22	2 1 24,89	—	110 1 23,70	—	1 20,12	+	3,58	4,013	
854	—	—	—	101 —	—	50 3,72	—	—	4,021	
855	—	5 3 10,94	—	72 3 10,94	—	3 8,28	+	2,66	4,029	

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. Greenh January 1, 1832			A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831	No. 1832	No. 1833	h.	m.	s.		Green.	A. S.	
			s.	s.	s.				s.	s.	s.	s.
856	4	Equal Pict α	2 28,05	4 28,04	—	6	46	28,01	—	27,74	+0,27	+0,631
857	4	16 Canis Maj. α^1	5 9,84	6 9,91	—	6	47	9,87	9,92	9,65	—0,05	2,486
858	6	17 Canis Maj. π^2	—	2 47,64	4 47,64	6	47	47,62	—	47,47	+0,15	2,587
859	7	Geminorum	—	—	4 55,72	6	47	55,74	—	55,48	+0,26	3,496
860	5.6	19 Canis Maj. π^3	—	—	5 20,62	6	48	20,60	—	20,03	+0,57	2,594
861	6.7	39 Geminor. γ^1	—	—	11 25,76	6	48	25,79	—	25,07	+0,72	3,714
862	5.6	18 Canis Maj. μ	—	—	6 24,91	6	48	24,90	—	24,28	+0,62	2,746
863	4.5	20 Canis Maj. ι	10 38,81	5 38,78	3 38,90	6	48	38,81	38,76	38,45	+0,05	2,673
864	6.7	40 Geminor. γ^2	—	—	5 5,27	6	49	5,30	—	4,95	+0,35	3,709
865	7	Geminorum	—	2 11,61	2 11,41	6	50	11,53	—	11,19	+0,34	3,446
866	6.7	41 Geminorum	—	6 36,40	—	6	50	36,41	—	35,98	+0,43	3,450
867	6	Canis Maj.	—	5 38,08	—	6	50	38,07	—	37,79	+0,28	2,476
868	6	Canis Maj.	—	6 43,03	—	6	51	43,02	—	42,72	+0,30	2,455
869	2.3	21 Canis Maj. ϵ	11 1,65	10 1,53	6 1,59	6	52	1,58	1,59	1,29	—0,01	2,354
870	6	42 Geminor. ω^1	—	—	6 10,16	6	52	10,18	—	10,05	+0,13	3,660
871	6.7	Geminorum	—	1 49,58	4 49,22	6	52	49,30	—	48,78	+0,52	3,808
872	4	43 Geminorum ζ	7 8,47	4 8,39	12 8,45	6	54	8,45	8,42	8,33	+0,03	3,562
873	5.6	19 Monocer s	—	6 34,38	—	6	54	34,38	—	33,78	+0,60	2,977
874	4.5	Camelopardi	4 14,18	5 15,36	—	6	55	14,99	15,27	14,68	—0,28	13,217
875	3.4	22 Canis Maj. σ	6 1,72	5 1,83	—	6	55	1,76	1,81	1,53	—0,05	2,387
876	6.7	44 Geminor. ω^2	—	6 11,31	1 10,90	6	55	11,28	—	10,76	+0,52	3,616
877	4	24 Canis Maj. ϕ^2	4 0,64	6 0,76	—	6	56	0,70	0,79	0,38	—0,09	2,502
878	4	23 Canis Maj. γ	7 9,50	9 9,53	8 9,54	6	56	9,51	9,46	9,21	+0,05	2,711
879	6	45 Geminor. ϕ	—	6 43,74	—	6	58	43,75	—	43,56	+0,19	3,444
880	5	63 Aurigæ	6 5,30	5 5,32	1 5,31	7	0	5,32	—	5,58	—0,26	4,135
881	5	46 Geminor. τ	5 26,21	5 26,33	—	7	0	26,29	—	26,02	+0,27	3,829
882	6	47 Geminorum	—	6 57,58	—	7	0	57,60	—	57,25	+0,35	3,729
883	3.4	25 Canis Maj. δ	5 33,50	7 33,76	6 33,78	7	1	33,66	33,69	33,52	—0,03	2,436
884	5.6	20 Monocerotis	—	6 53,04	—	7	1	53,04	—	52,96	+0,08	2,979
885	6	48 Geminor. m	—	6 13,73	2 13,45	7	2	13,69	—	13,22	+0,47	3,652
886	5.6	Canis Maj.	—	4 47,85	2 47,81	7	2	47,82	—	47,74	+0,08	2,469
887	4.5	22 Monocer. m	7 17,00	5 17,08	7 17,16	7	3	17,08	17,08	17,12	0 00	3,063
888	5	51 Geminorum	5 43,26	1 43,15	6 43,14	7	3	43,20	43,29	43,15	—0,09	3,447
889	7	52 Geminor. n	—	—	7 24,93	7	4	24,95	—	24,81	+0,14	3,671
890	6	26 Canis Maj.	—	6 19,91	—	7	5	19,89	—	19,94	—0,05	2,452
891	6	53 Geminor. z	—	—	6 27,17	7	5	27,20	—	26,73	+0,47	3,755
892	5	64 Aurigæ	5 20,55	4 20,58	—	7	6	20,58	—	20,16	+0,42	4,188
893	7	Geminorum	—	6 6,09	—	7	7	6,11	—	5,94	+0,17	3,446
894	4.5	27 Canis Maj. ϵ^1	9 24,48	6 24,55	—	7	7	24,49	—	24,33	+0,16	2,443
895	5	Arg. in pup I	5 46,33	6 46,33	—	7	7	46,31	—	46,36	—0,05	1,722
896	6	28 Canis Maj. ω	—	5 59,73	—	7	7	59,70	—	59,12	+0,58	2,431
897	5	Arg. in pup LI	1 12,17	4 11,85	4 11,92	7	8	11,90	—	11,41	+0,49	1,795
898	4.5	54 Geminor. λ	4 26,20	6 26,18	8 26,03	7	8	26,12	25,98	26,13	+0,14	3,455
899	6	Canis Maj.	—	6 51,15	—	7	9	51,14	—	50,95	+0,19	2,402
900	3.4	55 Geminor. δ	6 5,05	2 5,16	12 4,97	7	10	5,02	5,11	4,82	—0,09	3,590

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precessi- on.
	No.	1831	No.	1832	No.	1833				Green.	A. S. C	
856	5 45	44,37	1 45	44,39			151 45 44,37		45 47,25		— 2,88	+4,034
857	5 58	43,43	5 58	41,52			113 58 42,48	58 46,53	58 43,51	—4,05	— 1,03	4,088
858			4 11	50,38			110 11 50,38		11 45,57		+ 4,81	4,142
859					5 53	3,06	71 53 3,06		53 1,09		+ 1,97	4,151
860			4 55	45,26			109 55 45,26		55 37,57		+ 7,69	4,188
861					3 42	19,73	63 42 19,73					4,192
862			5 49	54,38			103 49 54,38		49 54,21		+ 0,17	4,194
863	6 50	31,38	5 50	33,53			106 50 32,36	50 32,50	50 28,11	—0,14	+ 4,25	4,214
864			1 51	54,23	4 51	54,69	63 51 54,60		51 54,13		+ 0,47	4,249
865					3 50	9,21	73 50 9,21		50 7,82		+ 1,39	4,344
866			5 41	45,46	1 41	45,78	73 41 45,51		41 41,89		+ 3,62	4,379
867			2 25	3,23	2 25	0,43	114 25 1,83		25 1,24		+ 0,59	4,385
868			4 11	36,27			115 11 36,27		11 30,20		+ 6,07	4,477
869	35 44	51,48	6 44	50,00	17 44	50,29	118 44 50,98	44 54,37	44 51,80	—3,39	— 0,82	4,504
870			5 33	11,42			65 33 11,42		33 7,31		+ 4,11	4,512
871			5 23	23,61			60 23 23,61		22 58,32		+ 25,29	4,567
872	5 11	26,04	8 11	25,23	25 11	26,76	69 11 26,35	11 27,39	11 28,60	—1,04	— 2,25	4,681
873			5 0	6,64			94 0 6,64		0 0,45		+ 6,19	4,718
874	5 17	33,08	5 17	33,12			7 17 33,10	17 32,10	17 31,49	+1,00	+ 1,61	4,747
875	6 41	56,18	5 41	57,00			117 41 56,55	41 56,80	41 59,66	—0,25	— 3,11	4,759
876			5 7	8,38			67 7 8,38		7 6,43		+ 1,95	4,769
877	5 35	31,46	5 35	31,11			113 35 31,29	35 37,86	35 36,12	—6,57	— 4,83	4,842
878	5 23	29,60	5 23	29,91			105 23 29,75	23 28,63	23 23,78	+1,12	+ 5,97	4,854
879			6 48	27,84			73 48 27,84		48 26,82		+ 1,02	5,070
880	5 24	55,02	5 24	55,09			50 24 55,05		24 48,43		+ 6,62	5,184
881	4 29	19,18	5 29	18,60			59 29 18,86		29 12,34		+ 6,52	5,213
882	4 52	27,77					62 52 27,77		52 30,51		— 2,73	5,257
883	5 7	53,46	5 7	51,59			116 7 52,52	7 54,22	7 52,59	—1,70	— 0,07	5,312
884	5 58	50,06					93 58 50,06		58 47,44		+ 2,62	5,338
885	5 35	53,27					65 35 53,27		35 52,25		+ 1,02	5,364
886			5 57	56,99			114 57 56,99		57 51,77		+ 5,22	5,416
887	5 13	19,33	4 13	18,68			90 13 19,04	13 16,55	13 15,08	+2,49	+ 3,96	5,456
888	5 33	44,45	5 33	44,13	10 33	44,83	73 33 44,56	33 46,06	33 44,79	—1,50	— 0,23	5,491
889			5 49	55,81			64 49 55,81		49 51,26		+ 4,55	5,549
890	3 40	1,25					115 40 1,25		39 53,05		+ 8,20	5,630
891					5 49	5,64	61 49 5,64		49 2,90		+ 2,74	5,635
892	5 49	34,01	5 49	33,93			48 49 33,97		49 38,42		— 4,45	5,709
893			4 33	53,34	3 33	52,93	73 33 53,17		33 54,85		— 1,68	5,775
894	5 4	4,16	5 4	3,71			116 4 3,93	4 5,33	4 1,68	—1,40	+ 2,25	5,803
895	5 28	55,43	6 28	54,45			136 28 54,90		28 58,59		— 3,69	5,836
896	5 29	9,14			5 29	9,42	116 29 9,28		29 7,08		+ 2,20	5,852
897	5 53	44,39	5 53	43,43			134 53 43,91		53 33,75		+ 10,16	5,871
898	5 9	44,69	5 9	48,32	10 9	46,30	73 9 46,40	9 49,56	9 47,46	—3,16	— 1,06	5,887
899			5 35	20,45			117 35 20,45		35 21,76		— 1,31	6,008
900	5 42	54,86	10 42	54,26	8 42	55,71	67 42 54,89	42 57,28	42 56,32	—2,39	— 1,43	6,024

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832			Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831	No. 1832	No. 1833						Green.	A. S.	
						s.	s.	s.					
901	5	Piscis Vol. γ	2 8,77	4 8,82	—	7 10	8,73	—	8,83	—	+0,40	—0,475	
902	5	65 Aurigæ	5 48,38	4 48,49	—	7 10	48,44	—	47,66	—	+0,78	+4,030	
903	3.4	Argus π	2 12,39	6 12,57	4 12,95	7 11	12,63	—	11,81	—	+0,82	2,116	
904	6	29 Canis Maj.	—	6 40,80	—	7 11	40,78	—	40,15	—	+0,63	2,495	
905	6	30 Canis Maj. d	—	—	5 44,64	7 11	44,61	—	44,64	—	—0,03	2,485	
906	5.6	56 Geminor. q	—	7 1,64	—	7 12	1,65	1,77	1,76	—0,12	—0,11	3,550	
907	6	57 Geminor. A	—	4 13,60	1 13,80	7 13	13,66	—	13,58	—	+0,08	3,070	
908	7	58 Geminorum	1 22,07	6 22,15	1 21,96	7 13	22,13	—	21,28	—	+0,85	3,613	
909	6.7	59 Geminorum	—	6 5,75	—	7 14	5,76	—	5,48	—	+0,28	3,741	
910	6	Canis Maj.	—	6 10,51	—	7 14	10,50	—	9,91	—	+0,59	2,462	
911	4	60 Geminor. i	12 17,12	7 17,18	13 16,95	7 15	17,05	17,04	16,94	+0,01	+0,11	3,744	
912	6	1 Canis Min.	—	—	6 37,87	7 15	37,88	—	37,90	—	—0,02	3,337	
913	6	2 Canis Min. s	—	6 27,76	—	7 16	27,76	—	27,44	—	+0,32	3,282	
914	5	Piscis Vol. δ	5 53,32	1 53,61	—	7 16	53,36	—	53,50	—	—0,14	0,000	
915	3	31 Canis Maj. η	6 27,15	6 27,16	3 27,27	7 17	27,18	27,22	26,37	—0,01	+0,81	2,370	
916	6	63 Geminor. r	—	6 45,70	3 45,73	7 17	45,72	45,67	45,61	+0,05	+0,11	3,572	
917	3	3 Canis Min. β	6 2,40	6 2,18	21 2,29	7 18	2,29	2,21	1,73	+0,08	+0,56	3,259	
918	5	62 Geminor. p	4 17,87	3 18,02	—	7 18	17,94	—	17,21	—	+0,73	3,858	
919	5.6	64 Geminor. bl	—	2 51,84	4 51,68	7 18	51,75	—	51,38	—	+0,37	3,750	
920	6	5 Canis Min. η	—	—	6 59,73	7 18	59,73	—	59,92	—	—0,19	3,229	
921	5.6	4 Canis Min. γ	—	6 0,79	—	7 19	0,79	—	0,68	—	+0,11	3,273	
922	5.6	65 Geminor. δ^2	—	—	5 21,18	7 19	21,20	—	20,79	—	+0,41	3,744	
923	5.6	6 Canis Min. σ	—	6 26,56	—	7 20	26,57	—	25,83	—	+0,74	3,343	
924	6	Argus	—	8 19,22	—	7 21	19,21	—	19,12	—	+0,09	2,379	
925	6	7 Canis Min. δ^1	—	5 22,19	—	7 23	22,19	—	21,96	—	+0,21	3,118	
926	7	67 Geminorum	—	—	6 49,42	7 23	49,43	—	49,31	—	+0,12	3,426	
927	3	66 Geminor. ρ	30 51,96	15 52,13	60 52,11	7 23	52,10	52,18	52,00	—0,08	+0,10	3,856	
928	4	Argus σ	5 54,21	5 54,10	—	7 23	54,14	—	53,69	—	+0,45	1,906	
929	5	68 Geminor. k	5 1,13	5 0,99	—	7 24	1,07	—	0,80	—	+0,27	3,430	
930	5.6	8 Canis Min. δ^2	—	9 23,17	—	7 24	23,17	—	22,67	—	+0,50	3,148	
931	7	Geminorum	—	—	6 27,49	7 24	27,53	—	27,57	—	—0,04	3,827	
932	6	9 Canis Min. δ^3	—	1 26,85	2 26,90	7 25	26,86	—	26,20	—	+0,66	3,149	
933	5	69 Geminor. v	—	4 33,76	6 33,72	7 25	33,76	33,76	33,74	0,00	+0,02	3,709	
934	7	Geminorum	—	7 12,45	1 12,44	7 27	12,46	—	12,09	—	+0,37	3,533	
935	6	Arg. in pup n^1	—	6 12,74	—	7 27	12,73	—	12,63	—	+0,10	2,539	
936	6	Arg. in pup n^2	—	—	5 13,58	7 27	13,56	—	13,73	—	—0,17	2,539	
937	5.6	Arg. in pup p	—	—	5 38,28	7 28	38,26	—	38,34	—	—0,08	2,410	
938	6	25 Monocerotis	—	5 55,51	—	7 28	55,51	—	54,95	—	+0,56	2,987	
939	7	Geminorum	—	2 8,89	3 8,61	7 29	8,75	—	—	—	—	3,853	
940	6	74 Geminor. f	—	—	5 46,12	7 29	46,15	46,20	46,16	—0,05	—0,01	3,471	
941	1.2	10 Canis Min. α	41 30,27	16 30,29	48 30,29	7 30	30,29	30,35	30,14	—0,06	+0,15	3,143*	
942	6	Arg. in pup m	—	6 18,60	—	7 31	18,59	—	18,08	—	+0,51	2,494	
943	6	75 Geminor. σ	—	5 48,13	—	7 32	48,14	—	47,81	—	+0,33	3,757	
944	4.5	26 Monoc. n	5 13,11	6 13,35	—	7 33	13,24	13,30	13,02	—0,06	+0,22	2,870	
945	7	Geminorum	—	6 21,35	2 21,29	7 33	21,35	—	21,02	—	+0,33	3,584	

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precession	
	No. 1831	No. 1832	No. 1833				Green.	A. S. C.		
901	3 13 32,65	5 13 32,41	—	160 13 32,50	—	13 31,32	—	—	—	
902	5 55 53,20	5 55 51,94	—	52 55 52,57	—	55 56,40	+	1,18	+ 6,040	
903	5 48 2,49	5 47 59,41	—	126 48 0,95	—	43 1,26	+	2,17	6,082	
904	5 15 25,37	5 15 26,78	—	114 15 23,08	—	15 25,87	—	0,31	6,121	
905	5 39 12,78	—	—	114 39 12,78	—	39 10,51	+	0,21	6,159	
906	2 14 45,90	—	5 14 48,21	69 14 47,55	14 48,09	14 46,38	—0,54	+	2,27	6,465
907	—	5 38 4,17	—	64 38 4,17	—	38 1,16	—	+	1,17	6,186
908	—	—	4 44 19,86	66 44 19,86	—	44 20,79	—	+	3,01	6,285
909	—	10 2 43,28	—	62 2 43,28	—	2 43,66	—	—	0,93	6,296
910	—	5 34 56,83	—	115 34 56,83	—	34 53,91	—	+	0,38	6,357
911	5 52 34,93	10 52 33,97	9 52 32,99	61 52 33,81	52 32,91	52 28,65	+0,90	+	2,92	6,367
912	—	—	4 0 28,71	78 0 28,71	—	0 30,05	—	—	5,16	6,456
913	—	5 24 0,91	—	80 24 0,91	—	23 57,53	—	—	1,34	6,486
914	4 38 54,03	5 38 51,98	—	157 38 52,89	—	38 51,80	+	+	3,38	6,554
915	13 58 46,76	5 58 45,42	—	118 58 46,38	58 49,36	58 48,85	—3,00	—	1,09	6,599
916	—	—	5 13 5,16	68 13 5,16	13 5,88	13 4,75	—0,72	—	2,47	6,638
917	8 22 44,25	9 22 44,29	—	81 22 44,27	22 44,24	22 40,03	—0,72	+	0,41	6,661
918	5 53 21,35	3 53 18,69	—	57 53 20,35	—	53 20,59	+0,03	+	4,24	6,684
919	7 32 35,42	—	—	61 32 35,42	—	32 35,62	—	—	0,24	6,703
920	—	5 43 20,42	—	82 43 20,42	—	43 14,77	—	+	0,20	6,751
921	1 44 30,66	4 44 30,45	—	80 44 30,51	—	44 28,04	+	+	5,65	6,764
922	—	4 44 41,79	—	61 44 41,79	—	44 36,92	+	+	2,47	6,765
923	—	5 39 9,40	—	77 39 9,40	—	39 6,59	+	+	4,87	6,791
924	—	6 49 4,34	—	118 49 4,34	—	49 5,66	+	+	2,81	6,881
925	—	5 44 5,80	—	87 44 5,80	—	44 3,00	—	—	1,32	6,957
926	—	6 0 26,62	—	74 0 26,62	—	0 21,81	+	+	2,80	7,122
927	33 45 3,91	23 45 3,61	77 45 8,65	57 45 3,71	45 4,22	45 3,45	—0,51	+	4,81	7,159
928	5 57 53,50	5 57 49,24	—	132 57 51,37	—	57 58,76	—	+	0,26	7,161
929	5 49 5,48	5 49 4,57	—	73 49 5,02	—	49 2,76	—	—	7,39	7,169
930	6 21 29,32	—	—	86 21 29,32	—	21 27,44	+	+	2,26	7,174
931	—	5 40 54,18	—	58 40 54,18	—	40 54,73	+	+	1,88	7,205
932	6 16 13,47	—	—	86 16 13,47	—	16 10,30	—	—	0,55	7,210
933	5 44 16,03	5 44 15,93	—	62 44 15,98	44 17,52	44 13,36	—1,54	+	3,17	7,291
934	—	5 28 19,21	—	69 28 19,21	—	28 13,55	—	+	2,62	7,300
935	—	5 6 46,47	—	113 6 46,47	—	6 41,26	+	+	5,66	7,434
936	—	5 6 44,69	—	113 6 44,89	—	6 47,81	+	+	2,21	7,457
937	—	2 0 7,98	4 0 7,02	118 0 7,31	—	0 6,96	—	—	2,92	7,439
938	—	5 44 26,37	—	93 44 26,37	—	44 32,55	+	+	0,38	7,553
939	—	5 36 46,18	—	57 36 46,18	—	36 42,85	—	—	6,18	7,574
940	—	6 57 1,22	—	71 57 1,22	56 59,14	56 57,33	+2,08	+	3,33	7,591
941	60 21 3,78	33 21 3,78	75 21 3,95	84 21 3,85	21 2,91	20 57,47	+0,94	+	3,89	7,642
942	—	4 59 24,44	—	114 59 24,44	—	59 18,10	—	+	6,38	8,682*
943	—	5 43 5,51	—	60 43 5,54	—	43 0,59	—	+	6,34	7,768
944	4 9 51,82	—	—	99 9 51,82	9 51,80	9 51,10	—	+	5,15	7,885
945	—	5 12 39,39	—	67 12 39,39	—	12 41,33	+2,98	+	0,72	7,921
							—	—	1,94	7,930

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832			Greenh Catal.	A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831	No. 1832	No. 1833	h.	m.	s.			Green.	A. S.	
			s.	s.	s.				s.	s.	s.	s.	
946	6	76 Geminor. <i>c</i>		3 51,68	3 51,24	7 33	51,48			51,29		+0,19	+3,671
947	4	77 Geminor. <i>z</i>	5 18,01	5 17,91		7 34	17,97	17,81		17,05	+0,16	+0,92	3,634
948	2	78 Geminor. <i>β</i>	24 1,62	17 1,57	63 1,50	7 35	1,56	1,60		1,14	—0,04	+0,42	3,682*
949	7	79 Geminorum		6 17,38		7 35	17,39			17,38		+0,01	3,530
950	6	1 Argus			5 52,09	7 35	52,07			51,82		+0,25	2,474
951	6	81 Geminor. <i>g</i>			8 23,42	7 36	23,44	23,61		23,08	—0,17	+0,36	3,486
952	5.6	Argus		6 45,56		7 36	45,54			45,04		+0,50	2,420
953	6	11 Canis Min <i>π</i>		6 1,07		7 37	1,08			0,80		+0,28	3,309
954	5	3 Argus	4 3,91	6 3,91		7 37	3,91			3,67		+0,24	2,405
955	5.6	4 Argus		4 12,73		7 38	12,72			12,27		+0,45	2,761
956	7	82 Geminor. <i>B</i>		6 30,49	2 30,43	7 38	30,49			29,79		+0,70	3,598
957	4	Arg in pup <i>c</i>	6 16,32	4 16,27		7 39	16,29			16,42		—0,13	2,135
958	5.6	Arg in pup <i>o</i>		6 6,27		7 41	6,26			5,87		+0,39	2,491
959	5.6	6 Argus		6 5,95		7 42	5,94			6,78		—0,84	2,704
960	7	Geminorum		5 10,08	1 9,86	7 42	10,05			9,94		+0,11	3,501
961	4	7 Argus <i>ξ</i>	7 13,99	6 13,93		7 42	13,95	13,90		13,73	+0,05	+0,22	2,520
962	5.6	13 Canis Min <i>ζ</i>		6 59,13		7 42	59,13			58,78		+0,35	3,114
963	5	83 Geminor. <i>φ</i>	7 12,35	6 12,29		7 43	12,34	12,37		11,88	—0,03	+0,46	3,686
964	5	9 Argus	5 59,50	1 60,00	5 59,71	7 43	59,64			59,21		+0,43	2,781
965	4.5	Arg in pup <i>P</i>	4 7,32		2 7,53	7 44	7,38			7,36		+0,02	1,827
966	6	10 Argus		5 35,10	2 34,93	7 44	35,04			34,54		+0,50	2,760
967	6.7	85 Geminor. <i>l</i>		5 51,17	4 51,11	7 45	51,16			51,08		+0,08	3,511
968	6	Canis Min		6 23,54		7 46	23,54			23,57		—0,03	3,264
969	5	Arg in pup <i>b</i>	6 42,04	3 42,07		7 46	42,04			41,65		+0,39	2,121
970	6	1 Cancri		5 26,83		7 47	26,84			26,36		+0,48	3,415
971	5	Arg in pup <i>R</i>	6 21,95	6 21,82		7 48	21,86			22,08		—0,22	1,762
972	7	Cancri		6 56,01		7 48	56,02			55,72		+0,30	3,431
973	6	14 Canis Min		6 37,89		7 49	37,89			37,67		+0,22	3,123
974	5.6	11 Argus		6 38,43		7 49	38,41			38,39		+0,02	2,578
975	7	Cancri		6 11,97		7 50	11,98			11,70		+0,28	3,357
976	6	2 Cancri <i>ω¹</i>			5 45,19	7 50	45,22			44,81		+0,41	3,641
977	6	Argus		3 58,55	3 58,50	7 50	58,50			57,73		+0,77	2,388
978	6	3 Cancri	1 9,20	5 9,35	1 9,33	7 51	9,33	9,33		8,94	0,00	+0,39	3,447
979	6.7	4 Cancri <i>ω²</i>			6 35,21	7 51	35,23			34,89		+0,34	3,633
980	6	12 Argus			6 53,61	7 51	53,59			52,70		+0,89	2,571
981	6	5 Cancri <i>r</i>		6 55,35		7 51	55,37			54,80		+0,57	3,427
982	3	Argus <i>z</i>	5 30,11	3 30,24		7 52	30,14			30,34		—0,20	1,530
983	5.6	28 Monocer <i>p</i>		5 40,55		7 52	40,55			39,79		+0,76	3,049
984	5.6	6 Cancri		6 11,34		7 53	11,36			10,89		+0,47	3,701
985	5	13 Argus	8 31,43	5 31,49		7 53	31,45			31,31		+0,14	3,125
986	6	8 Cancri		6 42,65		7 55	42,67			42,44		+0,23	3,351
987	5	27 Lynceis <i>k</i>	7 47,27	3 46,99		7 55	47,18			46,99		+0,19	4,564
988	5	55 Camelopardi	5 59,12	1 59,30		7 55	59,18			58,19		+0,99	6,107
989	6	9 Cancri <i>μ¹</i>		6 20,57		7 56	20,58	20,57		20,32	+0,01	+0,26	3,567
990	3	Argus <i>ζ</i>	8 40,92	9 40,90	2 41,15	7 57	40,93			40,74		+0,19	2,108

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precession			
	No.	1831	No.				1832	No.		1833	Green.	A. S. C.
946												
947	5	12 25,06	5	12 25,56		63 49 22,44		49 18,87	+	3,57 +7,970		
948	33	34 29,70	29	34 30,08	69	34 29,98	12 22,54	12 22,70	+2,77	+	2,61 8,005	
949			5	17 16,11		61 34 29,93	34 30,39	34 30,86	-0,46	-	0,93 8,064	
950			5	57 27,40		69 17 16,11		17 15,10	+	1,01 8,086		
						115 57 27,40		57 23,05	+	4,35 8,135		
951			4	5 14,12		71 5 14,12	5 13,03	5 10,69	+1,09	+	3,43 8,174	
952			5	0 55,02		118 0 55,02		0 55,65	-	0,63 8,206		
953			5	49 42,62		78 49 42,62		49 38,04	+	4,58 8,224		
954	5	33 24,86	5	33 23,38		118 33 24,12		33 26,95	-	2,83 8,230		
955			5	9 39,44		104 9 39,44		9 36,20	+	3,24 8,320		
956	1	26 58,98	5	26 57,88		66 26 58,06		27 0,49	-	2,42 8,341		
957	5	33 52,36	5	33 49,63		127 33 51,00		33 54,77	-	3,77 8,407		
958	9	31 32,20				115 31 32,20		31 27,76	+	4,44 8,551		
959	5	48 20,07				106 48 20,07		48 17,80	+	2,27 8,630		
960			5	15 9,37		70 15 9,37		15 3,48	+	5,89 8,632		
961	5	26 37,02	5	26 35,08		114 26 36,05	26 35,83	26 33,47	+0,22	+	2,58 8,640	
962			5	48 36,56		87 48 36,56		48 38,92	-	2,36 8,698		
963	5	48 21,53	5	48 21,61	16	48 22,10	48 23,92	48 24,92	-2,02	-	3,02 8,713	
964	5	27 24,61	5	27 23,74		103 27 24,17		27 28,44	-	4,27 8,778		
965	5	57 12,83	5	57 13,52		135 57 13,17		57 12,25	+	0,92 8,791		
966			5	25 13,94		104 25 13,94		25 6,34	+	7,60 8,824		
967	1	40 45,47	4	40 46,95		69 40 46,65		40 42,73	+	3,92 8,922		
968	6	41 52,84				80 41 52,84		41 48,39	+	4,45 8,965		
969	5	25 51,23				128 25 51,23		25 52,51	-	1,28 8,992		
970	7	46 0,62				73 46 0,62		45 58,67	+	1,95 9,047		
971	5	40 1,25	5	40 0,57		137 40 0,91		40 7,91	-	7,00 9,123		
972	2	2 4,96	5	2 3,38		73 2 4,17		2 7,22	-	3,05 9,163		
973			4	19 59,46		87 19 59,46		20 1,71	-	2,25 9,218		
974			5	26 11,96		112 26 11,96		26 8,31	+	3,65 9,220		
975			5	18 26,41		76 18 26,41		18 24,82	+	1,59 9,261		
976			4	9 15,08		64 9 15,08		9 14,63	+	0,45 9,303		
977			5	53 19,38		119 53 19,38		53 13,97	+	5,41 9,323		
978	4	14 14,98	3	14 15,64		72 14 15,26	14 13,64	14 13,13	+1,62	+	2,13 9,335	
979			5	27 20,75		64 27 20,75		27 16,58	+	4,17 9,368		
980			5	51 29,39		112 51 29,39		51 24,07	+	5,32 9,393		
981			2	5 14,53		73 5 14,53		5 13,78	+	0,75 9,394		
982	15	32 3,87				142 32 3,87		32 9,53	-	5,66 9,445		
983			5	55 54,78		90 55 54,78		55 54,31	+	0,47 9,453		
984	1	44 29,02	1	44 28,94	6	44 30,70		44 30,05	+	0,22 9,491		
985	5	12 36,43	5	12 35,39		87 12 35,91		12 31,48	+	4,43 9,519		
986			5	24 31,09		76 24 31,09		24 27,33	+	6,76 9,686		
987	5	1 2,46	5	1 2,41		38 1 2,45		1 10,38	-	7,93 9,689		
988	5	2 31,31	5	2 31,84		21 2 31,59					9,699	
989			5	55 29,08		66 55 29,08	53 28,57	53 26,06	+0,51		9,734	
990	12	32 4,42	9	32 3,59	20	32 4,07		32 0,49	+	3,57 9,840		

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. Greenh January 1, 1832			A. S. Catal.	Difference from		Annual Preces- sion	
			No. 1831	No. 1832	No. 1833	h.	m.	s.		Green.	A. S.		
			s.	s.	s.				s.	s.	s.		
991	6.7	10 Cancri μ^2	—	6 52,23	2 52,14	7	57	52,23	—	51,84	—	+0,39	+3,540
992	7	11 Cancri	—	—	2 32,25	7	58	32,28	—	32,51	—	-0,23	3,685
993	6	12 Cancri s	1 18,66	—	2 18,67	7	59	18,68	—	18,61	—	+0,07	3,360
994	5.6	29 Monocerotis	—	5 8,91	—	8	0	8,91	—	8,73	—	+0,18	3,018
995	3.4	15 Argus	6 23,33	5 23,45	—	8	0	23,38	23,55	22,94	-0,17	+0,44	2,558
996	5.6	16 Argus	—	6 31,77	—	8	1	31,76	—	30,38	—	+1,38	2,677
997	7	Cancri	—	—	—	8	2	—	—	6,32	—	—	3,278
998	6	16 Cancri	—	—	1 34,29	8	2	34,31	—	33,94	—	+0,37	3,445
999	6	15 Cancri ζ	—	—	2 43,33	8	2	43,36	—	42,53	—	+0,83	3,696*
1000	6	18 Argus \downarrow_3	—	—	2 52,62	8	2	52,60	—	52,74	—	-0,14	2,796
1001	6	19 Argus	—	6 23,35	—	8	3	23,35	—	22,82	—	+0,53	2,815
1002	5	Argus γ^1	14 18,87	4 18,91	—	8	4	18,87	—	18,89	—	-0,02	1,847
1003	2	Argus γ^2	16 21,19	6 21,48	4 21,47	8	4	21,29	—	21,50	—	-0,21	1,848
1004	7	Cancri	1 33,78	3 33,70	—	8	4	33,72	—	33,46	—	+0,26	3,441
1005	5	20 Argus	5 36,94	6 36,77	—	8	5	36,84	—	36,43	—	+0,41	2,756
1006	5	Argus	5 45,83	1 45,78	5 45,81	8	5	45,79	—	45,06	—	+0,73	2,024
1007	5	Arg in pup r	6 9,14	—	7 9,43	8	7	9,29	—	9,04	—	+0,25	2,261
1008	4	17 Cancri β	7 24,04	6 24,10	6 24,02	8	7	24,05	24,00	23,56	+0,05	+0,49	3,262
1009	5	Piscis Vol ε	—	6 21,58	—	8	7	21,52	—	21,12	—	+0,40	0,242
1010	6	21 Argus	—	5 41,05	—	8	9	41,04	—	40,75	—	+0,29	2,750
1011	6	18 Cancri α	—	6 50,95	—	8	9	50,97	—	50,37	—	+0,60	3,662
1012	6	19 Cancri λ	—	6 32,15	—	8	10	32,17	—	31,73	—	+0,44	3,582
1013	6.7	Cancri	1 32,92	5 32,61	2 32,50	8	10	32,63	—	31,90	—	+0,73	3,506
1014	5	31 Lyncis m	9 18,48	1 18,22	—	8	11	18,45	—	17,99	—	+0,46	4,142
1015	4.5	Arg in pup q	6 16,43	5 16,33	—	8	12	16,37	—	16,56	—	-0,19	2,250
1016	6	20 Cancri d^1	—	7 44,36	1 44,24	8	13	44,35	—	44,44	—	-0,09	3,449
1017	7	21 Cancri f	—	6 43,65	—	8	14	43,66	—	43,15	—	-0,51	3,388
1018	6	22 Argus	—	5 53,13	—	8	14	53,13	—	52,96	—	+0,17	2,821
1019	6	Argus	—	6 44,14	—	8	15	44,13	—	44,01	—	+0,12	2,532
1020	4.5	1 Ursæ Maj o	5 14,30	2 14,27	—	8	16	14,29	14,38	13,47	-0,09	+0,82	5,089
1021	6	1 Hydræ	—	5 12,65	—	8	16	12,65	—	11,86	—	+0,79	3,006
1022	6.7	22 Cancri Φ^1	—	4 13,76	2 13,75	8	16	13,84	—	13,35	—	+0,49	3,668
1023	6	25 Cancri d^2	1 18,72	—	5 18,81	8	16	18,80	—	18,34	—	+0,46	3,419
1024	6	23 Cancri Φ^2	—	—	—	8	16	—	—	36,45	—	—	3,643
1025	7	24 Cancri ul	—	—	6 39,55	8	16	39,57	—	39,63	—	-0,06	3,586
1026	6	Cancri	—	—	6 53,88	8	16	53,88	—	53,52	—	+0,06	3,226
1027	5.6	30 Monocer q	—	—	6 15,99	8	17	15,99	—	15,60	—	+0,39	3,003
1028	6.7	27 Cancri e	—	—	6 26,20	8	17	26,20	—	25,81	—	+0,39	3,327
1029	6	Argus	—	6 48,83	—	8	17	48,87	—	48,02	—	+0,85	2,589
1030	6	2 Hydræ	—	—	3 3,49	8	18	3,49	—	3,25	—	+0,24	3,002
1031	6.7	28 Cancri v^2	—	8 38,59	1 38,47	8	18	38,58	—	37,86	—	+0,72	3,574
1032	2	Argus ε	12 3,65	1 3,39	10 3,56	8	19	3,55	—	3,63	—	-0,08	1,243
1033	6	29 Cancri	—	6 14,49	—	8	19	14,50	—	14,09	—	+0,41	3,357
1034	6.7	30 Cancri v^3	—	4 33,89	—	8	21	33,91	—	33,56	—	+0,35	3,568
1035	5.6	31 Cancri θ	1 0,52	6 0,56	1 0,58	8	22	0,57	0,39	59,84	+0,18	+0,73	3,436

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession.
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
991	2 56	9,21	2 56	9,67			67 56 9,44		56 10,48			
992					3 2	16,08	62 2 16,08		2 14,19	—	1,04	+ 9,850
993					2 52	37,00	75 52 37,00		52 31,54	+	1,89	9,901
994	3 29	59,07	5 29	57,97			92 29 58,38		29 59,26	+	5,46	9,960
995	5 49	26,26	5 49	23,32			113 49 24,79	49 20,34	49 24,77	—	0,88	10,025
996	5 45	27,06	3 45	27,00			108 45 27,04		45 30,42	+	0,02	10,044
997					2 41	15,10	79 41 15,10		41 9,47	—	3,38	10,128
998					2 51	8,28	71 51 8,28		51 5,12	+	5,63	10,172
999							59 — —		50 48,65	+	3,16	10,206
1000					1 18	34,90	103 18 34,90		18 31,32	—		10,216
1001	2 25	59,81	3 26	2,49			102 26 1,42		26 0,10	+	3,58	10,232
1002	5 51	10,81					136 51 10,81		51 12,66	—	1,32	10,269
1003			5 50	38,05			136 50 38,05		50 43,67	—	1,85	10,342
1004			4 49	26,82			71 49 26,82		49 25,67	—	5,62	10,345
1005	5 17	17,73	5 17	17,42			105 17 17,57		17 8,72	+	1,15	10,356
1006	5 29	22,56	5 29	21,78			132 29 22,17		29 22,25	+	8,85	10,436
1007	5 23	50,93	5 23	47,99			125 23 49,46		23 44,43	—	0,08	10,449
1008	8 18	12,41	6 18	11,46	14 18	13,06	80 18 12,53	18 9,30	18 7,07	+	5,03	10,552
1009							158 — —		7 29,56	+	5,46	10,568
1010	1 46	10,95	4 46	12,35			105 46 12,07		46 12,74	—		10,572
1011			4 14	40,63			62 14 40,63		14 39,98	—	0,67	10,738
1012			5 27	17,78			65 27 17,78		27 18,11	+	0,65	10,748
1013			5 43	40,28			68 43 40,28		43 40,67	—	0,33	10,799
1014	5 16	49,39	5 16	48,62			46 16 49,00		16 48,00	—	0,39	10,799
1015	5 8	35,39	5 8	31,99			126 8 33,69		8 34,07	+	1,00	10,854
1016	5 8	4,64	5 8	1,57			71 8 3,10		8 4,46	—	0,38	10,931
1017	2 49	53,52	5 49	51,53			78 49 54,24		49 51,89	—	1,36	11,035
1018	2 31	7,72	3 31	8,54			102 31 8,21		31 9,78	+	2,35	11,107
1019			5 18	55,23			115 48 55,23		48 50,87	—	1,57	11,120
1020	5 43	43,10	6 13	43,86	12 43	43,18	26 43 43,34	43 44,74	43 47,26	+	4,36	11,182
1021			5 12	40,91			93 12 40,91		12 40,18	—	3,92	11,212
1022			5 33	33,23			61 33 33,23		33 34,19	+	0,73	11,215
1023			5 24	20,83			72 24 20,83		24 22,03	—	0,96	11,215
1024							62 — —		31 22,41	—	1,20	11,222
1025					7 55	16,53	64 55 16,53		55 13,43	+		11,243
1026			4 53	39,18			81 53 39,18		53 37,25	+	3,10	11,247
1027			2 21	44,68	2 21	47,01	93 21 45,84		21 45,13	—	1,93	11,265
1028			5 47	49,75			76 47 49,75		47 48,11	+	0,71	11,292
1029			5 30	18,88			113 30 18,88		30 20,63	+	1,64	11,303
1030			3 26	24,91			93 26 24,91		26 23,41	—	1,75	11,332
1031			5 18	14,79			65 18 14,79		18 13,24	+	1,50	11,349
1032							148 — —		58 22,79	+	1,55	11,389
1033			5 13	21,52			75 13 21,52		14 15,13	—		11,426
1034			4 21	33,72			65 21 33,72		21 28,61	+	9,39	11,433
1035	3 20	34,63	5 20	36,02			71 20 35,50	20 36,93	20 34,94	+	5,11	11,599
										—	0,56	11,630

xlvi *Comparison of the Observed Places of the Principal Fixed Stars*

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832			Greenh Catal.	A. S. Catal.	Difference from		Annual Preces- sion	
			No. 1831	No. 1832	No. 1833	h.	m.	s.			s.	s.		s.
1036	5	Chamæl α	—	—	—	8	22	Invisible	—	43,88	—	—	—1,411	
1037	6	33 Cancri η	—	7 59,06	—	8	22	59,07	58,98	58,77	+0,09	+0,30	+3,485	
1038	6.7	34 Cancri h	—	6 31,25	—	8	23	31,26	—	30,57	—	+0,69	+3,271	
1039	5	Piscis Vol η	7 30,88	—	—	8	23	30,88	—	30,28	—	+0,60	—0,441	
1040	5	Piscis Vol β	6 53,46	2 53,38	—	8	23	53,43	—	44,93	—	+8,50	+0,686	
1041	6	Monocerotis	—	5 58,17	—	8	23	58,16	—	57,48	—	+0,68	+2,696	
1042	5	4 Ursæ Maj π^2	7 26,08	2 26,26	—	8	25	26,13	—	26,08	—	+0,05	+5,368	
1043	5	Chamæl θ	—	—	—	8	25	Invisible	—	31,02	—	—	—1,566	
1044	6	Hydræ	—	6 54,85	—	8	26	54,85	—	54,63	—	+0,22	+3,204	
1045	7	36 Cancri ϵ^1	—	5 58,67	—	8	27	58,67	—	58,53	—	+0,14	3,261	
1046	4	4 Hydræ δ	11 45,32	6 45,60	9 45,55	8	28	45,46	45,48	45,00	—0,02	+0,46	5,185	
1047	5	5 Hydræ ϵ	6 58,66	3 58,61	5 58,57	8	29	58,61	—	58,06	—	+0,55	3,141	
1048	7	38 Cancri α	—	6 2,92	—	8	30	2,93	—	2,77	—	+0,16	3,462	
1049	7	Cancri	—	4 11,97	1 11,86	8	30	11,96	—	11,41	—	+0,55	3,457	
1050	6	39 Cancri	—	6 26,36	2 26,06	8	30	26,28	—	25,63	—	+0,65	3,466	
1051	6	40 Cancri	—	2 31,30	2 31,25	8	30	31,29	—	31,17	—	+0,12	3,465	
1052	7	Cancri	—	4 43,06	—	8	30	43,07	—	42,64	—	+0,43	3,459	
1053	6	Pixid Naut η	—	5 41,83	—	8	30	41,82	—	41,50	—	+0,32	2,560	
1054	6.7	41 Cancri ϵ	—	—	2 48,09	8	30	48,11	—	—	—	—	3,456	
1055	6.7	Cancri	—	3 48,40	6 48,22	8	30	48,30	—	48,24	—	+0,06	3,456	
1056	5	Arg in Vel ϵ^1	8 44,32	6 44,51	—	8	31	44,40	—	44,37	—	+0,03	2,106	
1057	5.6	6 Hydræ	—	—	6 4,05	8	32	4,05	—	3,52	—	+0,53	2,847	
1058	7	Cancri	—	—	7 10,49	8	32	10,50	—	10,14	—	+0,36	3,461	
1059	6	Pixid Naut ζ	—	—	5 44,38	8	32	44,37	—	44,03	—	+0,34	2,487	
1060	5	43 Cancri γ	8 33,08	7 33,26	6 33,15	8	33	33,17	33,20	32,83	—0,03	+0,34	3,493	
1061	5	Pixid Naut β	8 31,78	—	6 31,95	8	33	31,84	—	31,14	—	+0,70	2,342	
1062	6.7	45 Cancri Δ^1	—	6 56,40	—	8	33	56,41	—	56,05	—	+0,36	3,315	
1063	6	9 Hydræ	—	6 55,73	—	8	33	55,72	—	55,39	—	+0,33	2,781	
1064	5	7 Hydræ η	8 26,53	1 26,49	—	8	34	26,53	—	26,16	—	+0,37	3,141	
1065	5	Arg. in Vel δ	6 3,32	6 3,27	—	8	35	3,28	—	3,28	—	0,00	1,987	
1066	4.5	47 Cancri δ	5 7,75	2 7,64	6 7,81	8	35	7,78	7,78	7,35	0,00	+0,43	3,422	
1067	4	Argus α	4 28,89	2 28,87	—	8	35	28,87	—	29,16	—	—0,29	1,721	
1068	6.7	49 Cancri b	—	5 37,62	—	8	35	37,63	—	36,93	—	+0,70	3,264	
1069	5.6	48 Cancri i	—	5 31,01	—	8	36	31,02	—	30,69	—	+0,33	3,652	
1070	4.5	Pixid Naut α	6 50,85	—	5 50,85	8	36	50,84	50,92	50,65	—0,08	+0,19	2,406	
1071	5	Arg in Car d	—	4 54,05	—	8	36	54,01	—	54,05	—	—0,04	1,384	
1072	6	50 Cancri Δ^2	1 42,89	6 43,28	—	8	37	43,19	—	42,50	—	+0,69	3,301	
1073	4	11 Hydræ ϵ	4 52,56	5 52,39	5 52,54	8	37	52,50	52,56	52,25	—0,06	+0,25	3,195	
1074	6	12 Hydræ	—	6 26,52	—	8	38	26,52	—	25,88	—	+0,64	2,832	
1075	6	Hydræ	—	6 43,70	—	8	38	43,70	—	44,02	—	—0,32	3,045	
1076	5	13 Hydræ ρ	8 31,62	4 32,03	—	8	39	31,78	—	31,50	—	+0,28	3,184	
1077	5	Argus δ	5 3,76	3 3,96	3 4,29	8	40	3,92	—	3,91	—	+0,01	1,655	
1078	5	Arg in Vel α	9 20,01	—	6 20,31	8	40	20,13	—	20,06	—	+0,07	2,030	
1079	5.6	14 Hydræ B	—	5 55,15	—	8	40	55,15	—	54,43	—	+0,72	3,018	
1080	7	Cancri	—	6 9,06	—	8	41	9,01	—	8,53	—	+0,48	3,412	

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precessi- on.
	No.	1831	No.	1832	No.	1833				Green.	A. S. C	
1036	—	—	—	—	—	—	166 Invisible	—	23 16,59	—	—	+ 11,694
1037	—	—	5 59	36,03	—	—	68 59 36,03	59 38,42	59 38,53	-2,39	- 2,50	11,700
1038	—	—	5 22	14,24	—	—	79 22 14,24	—	22 9,73	—	+ 4,51	11,738
1039	5 51	21,43	—	—	—	—	162 51 21,43	—	51 31,99	—	- 10,56	11,747
1040	6 34	37,42	5 34	34,91	—	—	155 34 36,28	—	34 28,14	—	+ 8,14	11,761
1041	—	—	5 0	53,91	—	—	109 0 53,91	—	0 52,28	—	+ 1,63	11,771
1042	3 5	45,19	4 5	44,25	—	—	25 5 44,65	—	5 42,01	—	+ 2,64	11,869
1043	—	—	—	—	—	—	166 Invisible	—	56 26,18	—	—	11,891
1044	1 47	54,77	5 47	54,87	—	—	82 47 54,85	—	47 50,95	—	+ 3,90	11,978
1045	—	—	4 45	55,23	—	—	79 45 55,28	—	45 58,16	—	- 2,88	12,053
1046	5 42	55,61	7 42	54,46	12 42	54,91	83 42 54,92	42 57,02	42 52,30	-2,10	+ 2,62	12,107
1047	5 4	26,02	3 4	28,59	—	—	86 4 26,98	—	4 25,13	—	+ 1,85	12,192
1048	—	—	5 38	10,12	—	—	69 38 10,12	—	38 9,13	—	+ 0,99	12,196
1049	—	—	5 52	4,43	—	—	69 52 4,43	—	52 20,43	—	- 16,00	12,206
1050	—	—	5 24	19,98	—	—	69 24 19,98	—	24 15,56	—	+ 4,42	12,223
1051	—	—	5 26	31,13	—	—	69 26 31,13	—	26 25,34	—	+ 5,79	12,229
1052	—	—	5 44	33,48	—	—	69 44 33,48	—	44 33,46	—	+ 0,02	12,242
1053	—	—	—	—	6 40	17,54	115 40 17,54	—	40 15,18	—	+ 2,36	12,243
1054	—	—	—	—	7 52	4,63	69 52 4,63	—	52 1,38	—	+ 3,25	12,247
1055	—	—	—	—	—	—	69 —	—	51 59,80	—	—	12,249
1056	5 24	17,28	4 24	16,78	—	—	132 24 17,06	—	24 16,57	—	+ 0,49	12,317
1057	—	—	5 53	11,82	—	—	101 53 11,82	—	53 10,92	—	+ 0,90	12,337
1058	—	—	5 32	0,30	—	—	69 32 0,30	—	31 58,53	—	+ 1,77	12,343
1059	—	—	5 57	59,31	—	—	118 57 59,31	—	57 58,64	—	+ 0,67	12,384
1060	6 55	55,15	—	—	7 55	56,89	67 55 56,24	55 58,08	55 55,22	-1,84	+ 1,02	12,438
1061	5 43	2,49	6 43	0,47	—	—	124 43 1,39	—	42 57,86	—	+ 3,53	12,439
1062	—	—	5 43	19,16	—	—	76 43 19,16	—	43 18,18	—	+ 0,98	12,465
1063	—	—	5 20	42,85	—	—	105 20 42,85	—	20 35,14	—	+ 7,71	12,465
1064	5 0	13,51	5 0	12,45	10 0	12,43	86 0 12,71	—	0 12,36	—	+ 0,35	12,499
1065	6 3	16,47	5 3	17,97	—	—	136 3 17,15	—	3 13,63	—	+ 3,52	12,544
1066	5 14	0,06	—	—	4 14	1,06	71 14 0,51	14 0,73	14 0,00	-0,22	+ 0,51	12,546
1067	3 19	39,21	5 19	43,03	—	—	142 19 42,07	—	19 42,51	—	- 0,44	12,574
1068	—	—	5 18	57,19	—	—	79 18 57,19	—	18 54,57	—	+ 2,62	12,580
1069	—	—	5 37	54,67	—	—	60 37 54,67	—	37 51,97	—	+ 2,70	12,640
1070	5 35	4,82	4 35	2,63	—	—	122 35 3,85	35 4,83	35 6,29	-0,98	- 2,44	12,665
1071	—	—	4 9	45,47	—	—	149 9 45,47	—	9 53,30	—	- 7,83	12,671
1072	—	—	5 16	43,22	—	—	77 16 43,22	—	16 38,59	—	+ 4,63	12,722
1073	—	—	6 58	9,48	—	—	82 58 9,48	58 12,61	58 13,57	-3,13	- 4,09	12,733
1074	3 56	13,03	2 56	13,98	—	—	102 56 13,41	—	56 17,33	—	- 3,92	12,771
1075	—	—	5 17	9,64	—	—	91 17 9,64	—	17 10,61	—	- 0,97	12,791
1076	6 32	47,09	5 32	45,38	—	—	83 32 46,31	—	32 46,93	—	- 0,62	12,844
1077	6 5	44,49	4 5	41,25	—	—	144 5 43,05	—	5 51,99	—	- 8,94	12,884
1078	4 25	51,51	5 25	51,01	—	—	135 25 51,24	—	25 48,64	—	+ 2,60	12,901
1079	—	—	5 49	26,01	—	—	92 49 26,01	—	49 23,08	—	+ 2,93	12,937
1080	—	—	5 22	38,00	—	—	71 22 38,00	—	22 38,28	—	- 0,28	12,952

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832	Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831						Green.	A. S.	
			No. 1831	No. 1832	No. 1833						
			s.	s.	s.	h. m. s.	s.	s.	s.	s.	s.
1081	7	Cancer				8 41 10,88		10,89		-0,01	+3,428
1082	6.7	54 Cancer	1 39,60	4 10,90	1 10,67	8 41 39,76		38,98		+0,78	3,359
1083	6	55 Cancer ρ^2		5 34,57		8 42 34,58		34,21		+0,37	3,630
1084	6	Pixid Naut		4 0,04		8 43 0,03		59,33		+0,70	2,511
1085	6	Pixid Naut γ		5 24,32		8 43 24,31		24,42		-0,11	2,551
1086	7	Cancer	1 43,37	6 43,39		8 43 43,40		43,28		+0,12	3,396
1087	6	58 Cancer ρ^4		6 34,88		8 45 34,89		34,50		+0,39	3,614
1088	7	Cancer	1 54,44	5 54,64	2 54,63	8 45 54,63		54,33		+0,30	3,391
1089	4	16 Hydræ ζ	18 30,80	6 30,50	5 30,54	8 46 30,69	30,52	30,98	+0,17	-0,29	3,183
1090	6	60 Cancer α^1		6 44,66		8 46 44,67	44,74	44,50	-0,07	+0,17	3,285
1091	5	Chamœl η				8 46 Invisible		50,17			-1,767
1092	3.4	9 Ursæ Maj. ι	7 40,05	2 40,09	3 40,02	8 47 40,09	40,07	39,55	+0,02	+0,54	+4,131*
1093	6	62 Cancer ϕ^1		4 52,35		8 47 52,36		51,74		+0,62	3,352
1094	6	63 Cancer ϕ^2		5 11,96		8 48 11,97		11,07		+0,90	3,357
1095	6	Pixid Naut δ		4 19,42		8 48 19,40		18,63		+0,77	+2,562
1096	5	Chamœl				8 48 Invisible		43,79			-1,775
1097	5	65 Cancer κ^2	7 17,56	1 17,54	6 17,60	8 49 17,58	17,50	17,24	+0,08	+0,34	+3,287
1098	7	Cancer		5 40,93	1 40,52	8 49 40,87		40,63		+0,24	3,404
1099	4.5	Ursæ Maj. κ	6 7,23	2 7,05	5 6,99	8 52 7,14	7,19	7,29	-0,05	-0,15	4,147
1100	6	69 Cancer ν	4 54,35	4 54,35		8 52 54,36		53,80		+0,56	3,525
1101	5	Arg. in car b^1	9 51,83	3 51,83		8 52 51,82		51,67		+0,15	1,474
1102	5	Arg. in car b^2	8 16,63		6 16,89	8 55 16,70		17,10		-0,40	1,498
1103	6	Lyncis	7 49,22		5 48,96	8 55 49,14		48,88		+0,26	3,851
1104	6	18 Hydræ ω	2 7,51	6 7,72		8 57 7,67		7,31		+0,36	3,165
1105	6	Arg. in Vel c	14 22,03	6 21,87		8 58 21,98		22,26		-0,28	2,068
1106	5.6	76 Cancer κ		6 38,72		8 58 38,73	38,37	39,22	+0,36	-0,49	3,259
1107	6.7	75 Cancer		5 53,21		8 58 53,22		52,89		+0,33	3,559
1108	7	78 Cancer	1 36,61	6 36,77	3 36,63	8 59 36,73		36,03		+0,70	3,379
1109	5.6	77 Cancer ξ	2 41,36	5 41,36		8 59 41,36	41,26	41,14	+0,10	+0,22	3,465
1110	5	Piscis Vol α	7 46,71			8 59 46,71		46,25		+0,46	0,966
1111	6	79 Cancer		6 41,31		8 59 41,32		40,81		+0,51	3,462
1112	5.6	Pixid Naut		6 40,45		9 0 40,44		40,14		+0,30	2,625
1113	6	20 Hydræ L^2		4 22,91		9 1 22,91		22,35		+0,56	2,934
1114	3.4	Argus λ	10 49,71		2 49,32	9 1 49,04		49,47		+0,17	2,201
1115	6	Pixid Naut ϵ			5 49,68	9 2 49,66		49,34		+0,32	2,536
1116	6.7	81 Cancer π^1	1 5,45	7 5,56	3 5,46	9 3 5,52		5,38		+0,14	3,293*
1117	6	Cancer		5 0,78		9 4 0,80		0,39		+0,41	3,443
1118	5	18 Ursæ Maj. e	8 2,82	3 2,60		9 4 2,77		2,88		-0,11	4,380
1119	6	21 Hydræ K^1		5 8,08		9 4 8,08		7,61		+0,47	2,964
1120	5	Arg. in car G		5 39,65	4 39,50	9 4 39,47		38,51		+0,96	0,233
1121	4.5	22 Hydræ θ	10 37,36		6 37,32	9 5 37,35	37,19	37,03	+0,16	+0,32	3,117
1122	6	82 Cancer π^2	1 56,80	4 56,85	2 56,73	9 5 56,82		56,57		+0,25	3,326
1123	5	Arg. in car a	5 33,05		2 33,26	9 6 33,10		32,55		+0,55	1,584
1124	5	Arg. in car i	5 27,03		5 26,85	9 7 26,89		27,43		-0,54	1,376
1125	4	38 Lyncis p	8 22,00	1 22,00	2 21,92	9 8 22,00	22,07	21,45	-0,07	+0,55	3,767

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precession			
	No.	1831	No.				1832	No.		1833	Green.	A. S. C.
1081				4 32 50,09								
1082				3 1 52,62		70 32 50,09	32 47,36	+	2,73	+ 12,955		
1083				5 1 59,65		74 1 52,62	1 45,26	+	7,36	12,986		
1084	2 50 25,01			3 50 26,88		61 1 59,65	2 0,07	—	0,42	13,046		
1085	5 5 27,76			1 5 27,42		118 50 26,13	50 29,71	—	3,58	13,077		
						117 5 27,70	5 26,80	+	0,90	13,104		
1086				5 0 8,64								
1087				5 26 11,34		72 0 8,64	0 4,79	+	3,85	13,123		
1088				5 8 6,02		61 26 11,34	26 12,18	—	0,84	13,245		
1089	5 25 10,11			11 25 11,17	13 25 9,78	72 8 6,02	8 3,90	+	2,12	13,267		
1090				5 44 11,43		83 25 10,37	25 9,81	—2,24	+	0,56	13,307	
						77 44 11,43	44 12,60	—1,83	—	1,17	13,322	
1091												
1092	6 18 18,23			4 18 15,44	11 18 17,63	168 Invisible	21 9,78			13,339		
1093				5 2 16,49		41 18 17,38	18 17,50	+0,97	—	0,12	13,380	
1094	3 46 42,08					74 2 16,49	2 19,01	—	2,52	13,395		
1095	5 2 20,65			2 2 22,54		73 46 42,08	46 46,97	—	4,89	13,416		
						117 2 21,19	2 17,40	+	3,79	13,426		
1096												
1097	5 29 48,17			3 29 47,45	11 29 47,35	168 Invisible	27 15,74			13,462		
1098	4 12 57,60			1 12 56,92		77 29 47,58	29 49,69	—1,76	—	2,11	13,487	
1099	5 11 9,85			5 11 9,31	8 11 8,70	71 12 57,54	12 54,77	+	2,77	13,512		
1100	5 53 33,85					42 11 9,19	11 11,48	+0,87	—	2,29	13,668	
						64 53 33,85	53 26,80	+	7,05	13,719		
1101	5 34 57,41			6 34 56,67								
1102	4 26 31,64			5 26 32,29		148 34 57,01	34 59,70	—	2,69	13,721		
1103	5 52 56,76			5 52 57,05		148 26 32,00	26 37,91	—	5,91	13,875		
1104	5 14 28,74					50 52 56,91	52 52,91	+	4,00	13,903		
1105	5 25 55,86			5 25 55,70		84 14 28,74	14 28,67	+	0,17	13,987		
						136 25 55,78	26 0,43	—	4,65	14,067		
1106				6 39 34,39								
1107				5 40 50,69		78 39 34,39	39 39,50	—3,67	—	5,11	14,082	
1108				5 51 16,31		62 40 50,69	40 51,76	—	1,07	14,096		
1109	5 16 46,61					71 51 16,31	51 11,34	+	4,97	14,141		
1110	5 43 38,07			5 43 33,15		67 16 46,61	16 44,68	—1,86	+	1,93	14,146	
						155 43 35,61	43 38,21	—	2,60	14,156		
1111				4 19 33,38								
1112						67 19 33,38	19 32,65	+	0,73	14,207		
1113				4 6 32,13		115 11 —	11 3,78	—	—	14,208		
1114	5 45 27,36			5 45 28,03		98 6 32,13	6 32,85	—	0,72	14,251		
1115	5 41 3,51			2 41 3,55		132 45 27,70	45 23,98	+	3,72	14,280		
						119 41 3,52	40 59,77	+	3,75	14,341		
1116	1 19 56,79			4 19 55,04								
1117				5 1 43,21		74 19 55,39	19 47,95	+	7,44	14,355		
1118	5 17 31,26			6 17 31,35		68 1 43,21	1 42,16	+	1,05	14,411		
1119	1 25 33,32			4 25 32,53		35 17 31,30	17 27,17	+	4,13	14,412		
1120	5 55 37,78			5 55 37,28		96 25 32,69	25 28,63	+	4,06	14,419		
						161 55 37,53	55 41,61	—	4,08	14,456		
1121	5 58 54,01			6 58 52,81	8 58 53,89	86 58 53,58	58 52,59	+1,08	+	1,33	14,509	
1122				5 21 59,09		74 21 59,09	21 53,71	+	5,38	14,528		
1123	5 16 50,61				5 16 49,07	148 16 49,84	17 6,50	—	16,66	14,568		
1124	4 37 42,60			4 37 42,89		151 37 42,74	37 52,91	—	10,17	14,623		
1125	5 29 30,43			2 29 30,01	6 29 30,35	52 29 30,33	29 24,00	+0,06	+	6,33	14,672	

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832			Green ^h Catal.	A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831	No. 1832	No. 1833	1832					Green.	A. S.	
						s.	s.	s.					
1126	6	23 Hydræ <i>K</i> ²	—	6 21,19	—	9	8	21,19	—	20,90	—	+0,29	+2,978
1127	6	24 Hydræ	—	5 27,18	—	9	8	27,18	—	27,53	—	—0,35	2,940
1128	7	Leonis	—	6 44,06	—	9	8	44,07	—	43,71	—	+0,36	3,265
1129	5	Arg. in vel <i>l</i>	6 59,80	6 60,07	—	9	8	59,92	—	59,64	—	+0,28	2,363
1130	6	83 Cancri <i>q</i>	—	6 35,74	2 35,66	9	9	35,73	—	35,48	—	+0,25	3,369
1131	4.5	40 Lyncis <i>r</i>	7 47,99	—	6 47,84	9	10	47,94	48,13	47,89	—0,19	+0,05	3,701
1132	7	Leonis	—	5 23,39	—	9	11	23,41	—	25,09	—	—1,68	3,523
1133	2	Argus <i>β</i>	4 19,45	1 19,80	7 19,73	9	11	19,59	—	20,46	—	—0,87	0,729
1134	5.6	26 Hydræ <i>M</i> ²	—	5 41,07	—	9	11	41,07	—	40,54	—	+0,53	2,890
1135	5	Draconis	—	2 26,26	5 25,55	9	12	26,46	—	29,24	—	—2,78	9,478
1136	5.6	27 Hydræ	—	—	5 16,98	9	12	16,98	—	16,63	—	+0,35	2,929
1137	2	Argus <i>γ</i>	5 35,64	1 36,16	6 36,01	9	12	35,81	—	33,88	—	+1,93	1,609
1138	5	Pixid Naut <i>θ</i>	10 3,75	4 3,69	—	9	14	3,73	—	3,34	—	+0,39	2,650
1139	7	Hydræ	—	6 49,98	—	9	14	49,98	—	49,25	—	+0,73	3,160
1140	5	1 Leonis <i>κ</i>	9 51,40	1 51,49	—	9	14	51,44	—	51,25	—	+0,16	3,516
1141	7	Leonis	—	6 17,46	—	9	15	17,47	—	17,94	—	—0,47	3,397
1142	5.6	Pixid Naut <i>λ</i>	—	5 56,52	—	9	15	56,50	—	56,32	—	+0,18	2,599
1143	7	Leonis	—	6 13,16	—	9	16	13,17	—	13,12	—	+0,05	3,341
1144	3	Argus <i>κ</i>	6 55,04	—	4 55,23	9	16	55,09	—	55,01	—	+0,08	1,854
1145	6	28 Hydræ <i>Δ</i>	—	5 0,21	—	9	17	0,21	—	59,37	—	+0,84	3,001
1146	4	23 Ursæ Maj <i>h</i>	8 11,57	—	3 11,43	9	18	11,56	11,74	10,80	—0,18	+0,76	4,831
1147	2	30 Hydræ <i>α</i>	15 19,91	26 19,97	50 20,08	9	19	20,01	19,97	19,59	+0,04	+0,42	2,948
1148	5	24 Ursæ Maj <i>d</i>	5 28,50	—	5 27,30	9	19	28,00	—	29,37	—	—1,37	5,512
1149	6.7	2 Leonis <i>ω</i>	—	4 27,32	—	9	19	27,33	27,38	26,60	—0,05	+0,73	3,217
1150	6.7	3 Leonis	—	7 32,18	—	9	19	32,18	—	31,76	—	+0,42	3,203
1151	5.6	31 Hydræ <i>τ</i> ¹	—	6 37,41	—	9	20	37,41	—	36,59	—	+0,82	3,038
1152	3	25 Ursæ Maj <i>θ</i>	5 34,44	2 34,45	—	9	21	34,46	34,58	33,90	—0,12	+0,56	4,057*
1153	4.5	4 Leonis <i>λ</i>	5 7,62	—	6 7,43	9	22	7,52	7,45	7,29	+0,07	+0,23	3,441
1154	5	5 Leonis <i>ξ</i>	2 53,06	4 53,04	6 53,04	9	22	53,05	53,09	52,98	—0,04	+0,07	3,249
1155	6	6 Leonis <i>h</i>	—	6 56,90	—	9	22	56,90	—	55,95	—	+0,95	3,224
1156	5	Arg. in car <i>n</i>	4 5,21	1 5,28	4 5,70	9	23	5,33	—	8,36	—	—3,03	1,320
1157	6	32 Hydræ <i>τ</i> ²	1 24,68	6 25,11	—	9	23	25,05	—	24,82	—	+0,23	3,062
1158	5	10 Leonis Min <i>b</i>	—	3 54,43	6 54,38	9	23	54,45	54,54	54,48	—0,09	—0,03	3,706
1159	4.5	Argus <i>λ</i>	4 5,99	1 5,72	5 5,61	9	24	5,75	—	5,71	—	+0,04	2,369
1160	5	Arg. in vel <i>N</i>	8 7,42	3 7,29	—	9	26	7,36	—	5,86	—	+1,50	1,822
1161	6	33 Hydræ	—	5 9,81	—	9	26	9,81	—	9,14	—	+0,67	2,993
1162	6.7	7 Leonis	2 41,49	6 41,55	1 41,41	9	26	41,55	—	41,19	—	+0,36	3,292
1163	6.7	8 Leonis	—	7 45,97	1 45,99	9	27	45,99	—	45,61	—	+0,38	3,323
1164	7	9 Leonis	—	6 12,34	—	9	28	12,36	—	11,65	—	+0,71	3,459
1165	5.6	10 Leonis	—	6 20,34	—	9	28	20,34	20,27	19,67	+0,07	+0,07	3,178
1166	7	11 Leonis	—	5 50,70	—	9	28	50,71	—	50,50	—	+0,21	3,289
1167	5	Arg. in car <i>h</i>	10 34,61	—	2 34,74	9	29	34,62	—	34,62	—	—0,00	1,738
1168	5.6	2 Sextantis <i>b</i>	—	6 41,34	—	9	29	41,34	—	41,02	—	+0,32	3,145
1169	5	35 Hydræ <i>γ</i>	10 16,71	—	3 16,46	9	31	16,70	—	16,03	—	+0,67	3,063
1170	6	13 Leonis	—	6 57,64	—	9	31	57,65	—	57,28	—	+0,37	3,473

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precessi- on.	
	No. 1831		No. 1832		No. 1833					Green.	A. S. C.		
	No.	1831	No.	1832	No.	1833							
1126	3	39 24,41	2	39 23,96			95 39 24,23		39 21,45	+	2,78	+14,673	
1127			5	2 49,17			98 2 49,17		2 48,17	+	1,00	14,680	
1128			5	47 56,20			77 47 56,20		47 57,32	—	1,12	14,695	
1129	4	52 23,13					127 52 23,13		52 28,79	—	5,66	14,713	
1130			5	35 13,37			71 35 13,37		35 9,65	+	3,72	14,746	
1131	5	54 13,75	3	54 13,00	7	54 11,93	54 54 12,75	54 8,31	54 5,01	+4,44	+	7,74	14,817
1132			5	7 22,29			64 7 22,29						14,854
1133	5	1 29,66					159 1 29,66		1 45,81	—	16,15	14,855	
1134			5	16 11,12			101 16 11,12		16 7,61	+	3,51	14,870	
1135					7	56 27,48	7 56 27,48		56 34,30	—	6,82	14,904	
1136			5	50 48,06			98 50 48,06		50 42,96	+	5,10	14,905	
1137	2	34 20,50	5	34 19,78			148 34 19,98		34 24,37	—	4,39	14,924	
1138	5	15 18,89	2	15 16,58			115 15 18,20		15 19,17	—	0,97	15,009	
1139	2	3 52,39	3	3 51,69			84 3 51,97		3 53,14	—	1,17	15,052	
1140			8	5 55,70	2	5 54,97	63 5 55,55		5 56,45	—	0,90	15,054	
1141			3	29 33,58			69 29 33,58		29 17,26	+	16,32	15,080	
1142			5	7 5,24			118 7 5,24		7 8,68	—	3,44	15,118	
1143			5	41 38,47			72 41 38,47		41 38,04	+	0,43	15,133	
1144	5	17 45,69	2	17 47,57			144 17 46,23		17 51,37	—	5,14	15,175	
1145			5	23 50,75			94 23 50,75		23 45,13	+	5,62	15,177	
1146	7	12 37,72	2	12 35,01			26 12 37,12	12 37,52	12 32,93	—0,40	+	4,19	15,242
1147	10	56 1,76	42	56 0,43	66	56 0,78	97 56 0,74	56 3,26	56 1,40	—2,52	—	0,66	15,310
1148	5	26 21,25					19 26 21,24		26 19,20	+	2,04	15,314	
1149			5	13 1,08			80 13 1,08	12 57,35	12 52,12	+3,73	+	8,96	15,316
1150			5	5 0,60			81 5 0,60		4 53,85	+	6,75	15,321	
1151			5	2 20,05			92 2 20,05		2 15,48	+	4,57	15,382	
1152	3	33 41,97	5	33 43,11			37 33 42,66	33 44,37	33 46,31	—1,71	—	3,65	16,034*
1153	2	17 44,73	5	17 41,89			66 17 42,69	17 44,76	17 40,55	—2,07	—	2,14	15,466
1154	1	57 35,18	6	57 35,40	7	57 33,68	77 57 34,52	57 36,06	57 33,61	—1,54	+	0,91	15,508
1155	2	32 53,36	3	32 54,10			79 32 53,80		32 48,58	+	5,22	15,511	
1156	2	12 11,20	3	12 12,16			154 12 11,78		12 19,17	—	7,39	15,526	
1157			6	26 54,90			90 26 54,90		26 51,91	+	2,99	15,538	
1158	5	51 38,91			5	51 39,12	52 51 39,01	51 41,58	51 35,48	—2,57	+	3,53	15,564
1159	5	44 8,98	3	44 7,30			129 44 8,35		44 7,51	+	0,84	15,577	
1160	9	17 45,43	4	17 44,49			146 17 45,15		17 48,45	—	3,30	15,687	
1161	1	10 14,20	4	10 12,54			95 10 12,87		10 4,91	+	7,96	15,688	
1162	1	52 32,55	4	52 32,59			74 52 32,58		52 25,78	+	6,80	15,717	
1163			5	48 46,88			72 48 46,88		48 44,52	+	2,36	15,775	
1164			5	34 48,31			64 34 48,31		34 43,99	+	4,32	15,798	
1165	2	24 55,71	3	24 52,97			82 24 54,14	24 53,79	24 50,79	+0,35	+	3,35	15,806
1166			5	53 54,57			74 53 54,57		53 50,49	+	4,08	15,833	
1167	5	28 56,13	3	28 56,38			148 28 56,22		29 2,97	—	6,75	15,875	
1168	5	35 48,42	1	35 47,76			84 35 48,31		35 44,06	+	4,25	15,878	
1169	5	23 7,11			7	23 4,97	90 23 5,99		23 1,36	+	4,63	15,963	
1170	3	19 31,99	2	19 33,54			63 19 32,61		19 37,97	—	5,36	15,998	

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832	Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion			
			No. 1831			No. 1832						No. 1833			Green.	A. S.	
				s.		s.		s.		h. m. s.		s.		s.		s.	
1171	4	14 Leonis	o	8	10,66	4	10,71	6	10,78	9 32 10,72	10,73	10,18	-0,01	+0,54	+3,219		
1172	5	38 Hydræ	u	5	15,34			6	15,42	9 32 15,38		15,21		+0,17	2,874		
1173	7	Leonis				5	57,64	2	57,52	9 33 57,62		56,87		+0,75	3,373		
1174	6	16 Leonis	↓	3	34,50	4	34,56			9 34 34,53		34,28		+0,25	3,277		
1175	3	17 Leonis	ε	14	18,06	2	18,12	14	18,12	9 36 18,11	18,21	17,73	-0,10	+0,38	3,426		
1176	6	Antl. Pneum	θ			5	43,14			9 36 43,12		42,95		+0,17	2,669		
1177	6	18 Leonis				5	19,90			9 37 19,91		19,57		+0,34	3,242		
1178	7	19 Leonis				6	23,71			9 38 23,72		23,34		+0,38	3,238		
1179	4.5	29 Ursæ Maj.	υ	10	58,46	1	58,35	5	58,16	9 38 58,40	58,46	59,06	-0,06	-0,66	4,356*		
1180	7	20 Leonis		2	25,18	4	25,25	1	24,90	9 40 25,19		25,00		+0,19	3,377		
1181	5	30 Ursæ Maj.	Φ	7	37,13			6	37,07	9 40 37,15		37,79		-0,64	4,153		
1182	5	Arg. in car	l	5	37,67			6	38,39	9 40 38,00		36,40		+1,60	1,648		
1183	6	4 Sextantis	s			5	45,50			9 41 45,50		43,59		+1,91	3,136		
1184	6	22 Leonis	g			5	19,96			9 42 19,97		19,14		+0,83	3,424		
1185	6	6 Sextantis	t			6	46,11			9 42 46,11		45,86		+0,25	3,023		
1186	3.4	Argus	υ	5	54,01	1	54,31	2	54,34	9 42 54,08		54,07		+0,01	1,505		
1187	3	24 Leonis	μ	6	11,59			6	11,59	9 43 11,60	11,77	11,02	-0,17	+0,58	3,448		
1188	5	39 Hydræ	υ ^l	6	24,04			4	24,10	9 43 24,06		24,09		-0,03	2,880		
1189	7	7 Sextantis	A			6	32,14			9 43 32,14		31,80		+0,34	3,111		
1190	6	8 Sextantis	d			6	11,54			9 44 11,54		11,43		+0,11	2,972		
1191	7	9 Sextantis				6	19,73			9 45 19,73		19,30		+0,43	3,143		
1192	6	10 Sextantis				6	31,35			9 47 31,35		31,32		+0,03	3,193		
1193	5.6	27 Leonis	υ			8	10,76	1	10,87	9 49 10,78	10,77	10,44	+0,01	+0,34	3,238		
1194	6	11 Sextantis				6	13,33			9 49 13,33		12,90		+0,43	3,184		
1195	6.7	Sextantis				6	0,06			9 51 0,06		59,92		+0,14	3,120		
1196	4	Argus	Φ	5	58,78	2	58,90	6	58,58	9 50 58,63		58,59		+0,04	2,095		
1197	4.5	29 Leonis	π	7	19,77			6	19,83	9 51 19,81	19,90	19,68	-0,09	+0,13	3,179		
1198	6.7	Leonis				6	26,12			9 53 26,13		25,97		+0,16	3,362		
1199	6	Hydræ				6	24,80			9 51 24,80		24,64		+0,16	2,914		
1200	7	Leonis				8	8,36	1	8,20	9 55 8,35		7,92		+0,43	3,221		
1201	7	13 Sextantis	e			5	26,15			9 55 26,15		25,63		+0,52	3,117		
1202	7	Leonis		1	33,46	6	33,50			9 56 33,50		33,27		+0,23	3,272		
1203	5.6	40 Hydræ	υ ²			3	56,85			9 56 56,84		56,70		+0,14	2,920		
1204	5	21 Leonis Min	d	10	30,12			2	29,54	9 57 30,03		29,56		+0,47	3,564		
1305	6	14 Sextantis	C			2	0,14			9 58 0,14		59,47		+0,67	3,145		
1206	3.4	30 Leonis	υ	8	10,08	3	10,15	2	9,92	9 58 10,07	9,93	9,52	+0,14	+0,55	3,283		
1207	5	31 Leonis	A	5	59,20	3	59,04	4	59,02	9 58 59,11	58,99	58,74	+0,12	+0,37	3,197		
1208	5	15 Sextantis	f	2	20,19	4	20,34	6	20,38	9 59 20,33		21,82		-1,49	3,073		
1209	1	32 Leonis	α	7	25,19	36	25,08	40	25,09	9 59 25,11	25,14	21,73	-0,03	+0,38	3,221		
1210	6	16 Sextantis				6	26,52			10 0 26,53		25,83		+0,70	3,150		
1211	6	17 Sextantis	g ¹					4	46,85	10 1 46,85		46,99		-0,14	2,980		
1212	4.5	41 Hydræ	λ ²	11	24,06	3	24,26			10 2 24,09	24,13	23,60	+0,04	+0,49	2,934		
1213	6	18 Sextantis	g ²					6	34,86	10 2 34,86		34,66		+0,20	2,981		
1214	6	34 Leonis				6	35,80			10 2 35,82		35,23		+0,59	3,233		
1215	6	Sextantis				6	54,51			10 2 54,51					2,994		

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precession	
	No. 1831	No. 1832	No. 1833				Green.	A. S. C.		
	"	"	"	"	"	"	"	"	"	
1171	7 20 51,93	1 20 50,18	13 20 51,60	79 20 51,64	20 50,14	20 48,11	+1,50	+	5,53	+16,010
1172	5 34 22,51	3 34 19,27	—	103 34 21,30	—	34 25,77	—	—	4,47	16,015
1173	1 2 32,74	4 2 31,78	—	69 2 31,98	—	2 34,01	—	—	2,03	16,103
1174	5 12 52,03	—	—	75 12 52,03	—	12 49,76	—	+	2,27	16,135
1175	9 27 24,28	10 27 23,33	10 27 22,59	65 27 23,40	27 22,44	27 19,47	+0,96	+	3,93	16,224
1176	5 0 11,81	—	—	117 0 11,81	—	0 10,91	—	+	0,90	16,247
1177	—	5 25 10,80	—	77 25 10,80	—	25 5,51	—	+	5,29	16,277
1178	2 39 27,39	3 39 29,62	—	77 39 28,73	—	39 29,21	—	—	0,48	16,331
1179	5 10 40,08	3 10 38,27	5 10 38,62	30 10 39,10	10 34,06	10 37,42	+5,04	+	1,68	16,359
1180	1 2 25,16	4 2 26,84	—	68 2 26,51	—	2 29,90	—	—	3,39	16,433
1181	7 9 24,15	—	5 9 24 11	35 9 24,14	—	9 22,00	—	+	2,14	16,443
1182	5 44 4,62	—	6 44 3,35	151 44 4,03	—	44 8,53	—	+	4,50	16,446
1183	—	5 52 29,47	—	84 52 29,47	—	52 15,19	—	+	14,28	16,499
1184	3 48 50,35	2 48 52,98	—	64 48 51,40	—	48 47,85	—	+	3,55	16,528
1185	2 27 31,81	3 27 32,17	—	93 27 32,03	—	27 30,18	—	+	1,85	16,550
1186	6 17 40,52	—	—	154 17 40,52	—	17 38,42	—	+	2,10	16,560
1187	5 12 19,22	5 12 18,06	11 12 19,03	63 12 18,84	12 21,52	12 19,23	—2,68	—	0,39	16,570
1188	5 3 40,14	1 3 39,70	—	104 3 40,07	—	3 37,85	—	+	2,22	16,582
1189	—	5 45 57,33	—	86 45 57,33	—	45 54,61	—	+	1,72	16,588
1190	—	5 19 1,68	—	97 19 1,68	—	19 4,70	—	—	3,02	16,621
1191	—	5 16 1,08	—	84 16 1,08	—	15 55,08	—	+	6,00	16,675
1192	1 16 32,56	4 16 30,36	—	80 16 30,80	—	16 21,89	—	+	8,91	16,781
1193	3 45 26,72	2 45 26,10	—	76 45 26,47	45 26,75	45 21,55	—0,28	+	4,92	16,860
1194	5 53 16,96	5 53 16,37	—	80 53 16,67	—	53 14,08	—	+	2,59	16,862
1195	—	—	—	85 48 —	—	48 54,70	—	—	—	16,946
1196	5 46 12,74	1 46 9,72	5 46 10,04	143 46 11,23	—	46 16,53	—	—	5,30	16,946
1197	5 9 12,76	—	5 9 12,15	81 9 12,45	9 11,49	9 9,61	+0,96	+	2,84	16,961
1198	—	5 14 37,26	—	67 14 37,26	—	14 36,64	—	+	0,62	17,058
1199	1 29 23,21	3 29 22,71	—	102 29 22,83	—	29 24,85	—	—	2,02	17,103
1200	—	5 33 42,34	—	77 33 42,34	—	33 41,68	—	+	0,66	17,136
1201	—	5 59 4,70	—	85 59 4,70	—	59 3,90	—	+	0,80	17,149
1202	—	5 25 42,44	—	73 25 42,44	—	25 42,23	—	+	0,21	17,200
1203	—	5 15 10,82	—	102 15 10,82	—	15 6,14	—	+	4,68	17,218
1204	3 56 24,50	2 56 23,06	—	53 56 23,93	—	56 22,11	—	+	1,82	17,241
1205	—	5 37 18,20	—	83 37 18,20	—	34 17,25	—	+	0,95	17,264
1206	1 25 17,04	4 25 14,36	2 25 14,83	72 25 14,87	25 17,44	25 16,64	—2,57	—	1,77	17,271
1207	4 10 55,15	—	—	79 10 55,15	10 55,67	10 53,15	—0,52	+	2,00	17,308
1208	—	—	3 33 15,61	89 33 15,61	—	33 11,33	—	+	4,28	17,325
1209	10 12 55,92	52 12 53,08	56 12 54,05	77 12 53,78	12 52,46	12 49,82	+1,32	+	3,96	17,327
1210	5 0 28,81	—	—	83 0 28,81	—	0 27,01	—	+	1,80	17,372
1211	1 34 58,25	8 35 7,91	—	97 34 58,25	—	35 0,90	—	—	2,65	17,431
1212	5 31 35,70	2 31 36,25	—	101 31 35,86	31 37,00	31 33,81	—1,14	+	2,05	17,457
1213	1 35 23,03	—	—	97 35 23,03	—	35 24,94	—	—	1,91	17,465
1214	—	5 49 8,36	—	75 49 8,36	—	—	—	—	—	17,465
1215	—	5 29 28,57	—	96 29 28,57	—	29 24,44	—	+	4,13	17,478

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832		Green ^h Catal.	A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831	No. 1832	No. 1833					Green.	A. S.	
						s.	s.					
1216	7	19 Sextantis	—	7 3,74	—	10 4 3,74	—	—	3,24	—	+0,50	+3,130
1217	7	Leonis	—	6 14,33	—	10 5 14,35	—	—	14,23	—	+0,12	3,328
1218	6	21 Sextantis	5 46,18	—	—	10 5 46,18	—	—	46,12	—	+0,06	2,988
1219	3.4	33 Ursæ Maj. λ	9 55,97	5 56,09	—	10 6 56,02	56,12	—	55,91	—0,10	+0,11	3,675
1220	6	Leonis	—	5 6,58	1 6,57	10 7 6,60	—	—	5,84	—	+0,76	3,281
1221	4.5	36 Leonis ζ	6 20,00	—	13 20,02	10 7 20,03	20,02	—	19,67	+0,01	+0,36	3,353
1222	6	37 Leonis	—	5 39,24	1 39,16	10 7 39,24	—	—	39,29	—	—0,05	3,232
1223	4	Arg. in vel q	9 42,10	—	3 41,77	10 7 42,01	—	—	42,11	—	—0,10	2,516
1224	6	22 Sextantis z	—	6 17,06	—	10 9 17,06	—	—	16,99	—	+0,07	2,989
1225	4.5	Argus ω	6 44,34	—	2 44,41	10 9 44,31	—	—	43,72	—	+0,59	1,440
1226	6	Antl. Pneum	—	6 26,20	—	10 10 26,18	—	—	25,83	—	+0,35	2,739
1227	6	40 Leonis	—	6 35,02	—	10 10 35,04	—	—	34,57	—	+0,47	3,296
1228	2	41 Leonis γ	6 41,99	4 41,93	16 42,05	10 10 42,03	41,96	—	41,61	+0,07	+0,42	3,300
1229	5	Arg. in car q	4 29,23	2 28,93	6 29,43	10 11 29,22	—	—	27,62	—	+1,60	1,991
1230	3	34 Ursæ Maj μ	7 17,48	—	6 17,31	10 12 17,44	17,53	—	17,43	—0,09	+0,01	3,620
1231	6	23 Sextantis h	—	7 21,49	—	10 12 21,49	—	—	21,44	—	+0,05	3,101
1232	6	42 Leonis	3 47,78	3 47,87	—	10 12 47,83	—	—	47,52	—	+0,31	3,239
1233	6	43 Leonis z	—	—	—	10 14 —	—	—	12,73	—	—	3,145
1234	5	Arg. in vel T	8 40,67	5 40,77	—	10 14 40,69	—	—	38,89	—	+1,80	2,215
1235	4.5	Arg. in vel r	6 8,14	—	5 8,18	10 15 8,13	—	—	8,17	—	—0,04	2,558
1236	4.5	30 Leonis Min f	6 15,89	—	4 15,57	10 16 15,79	15,91	—	14,90	—0,12	+0,89	3,473
1237	6	44 Leonis δ	1 23,92	6 23,88	—	10 16 23,89	—	—	23,49	—	+0,40	3,167
1238	4	42 Hydræ μ	7 58,36	—	4 58,28	10 17 58,32	58,31	—	57,66	+0,01	+0,66	2,903
1239	6	26 Sextantis i	—	5 2,66	—	10 18 2,66	—	—	2,12	—	+0,54	3,067
1240	4.5	31 Leonis Min g	5 8,76	—	6 8,65	10 18 8,74	8,82	—	7,33	—0,08	+1,41	3,511
1241	6	27 Sextantis	2 17,90	5 17,75	—	10 18 17,79	—	—	17,62	—	+0,17	3,033
1242	6	45 Leonis	—	6 46,41	—	10 18 46,43	—	—	46,14	—	+0,29	3,175
1243	4.5	Antl. Pneum α	4 28,54	—	6 28,61	10 19 28,56	28,48	—	28,61	+0,08	—0,05	2,737
1244	5	36 Ursæ Maj	6 49,10	4 49,18	2 49,01	10 19 49,15	49,07	—	50,16	+0,08	—1,01	3,935
1245	6	Sextantis q	2 13,10	4 13,42	—	10 20 13,31	—	—	13,83	—	—0,52	3,040
1246	6	28 Sextantis k	—	5 56,05	—	10 20 56,05	—	—	56,32	—	—0,27	3,050
1247	5	Arg. in car I	—	6 3,03	—	10 21 2,91	—	—	0,76	—	+2,15	1,218
1248	6	30 Sextantis l	—	5 42,34	—	10 21 42,34	—	—	42,02	—	+0,32	3,070
1249	5.6	Antl. Pneum	—	—	6 44,09	10 21 44,05	—	—	43,85	—	+0,20	2,762
1250	7	31 Sextantis u	—	—	6 50,26	10 21 50,26	—	—	49,45	—	+0,81	3,097
1251	6	Antl. Pneum δ	—	—	6 52,04	10 21 52,00	—	—	51,76	—	+0,24	2,751
1252	6	46 Leonis i	1 13,23	5 13,32	—	10 23 13,31	—	—	13,37	—	—0,06	3,215
1253	7	32 Sextantis α	—	6 34,84	—	10 23 34,84	—	—	34,29	—	+0,55	3,121
1254	4	47 Leonis ρ	14 57,63	4 57,74	5 57,71	10 23 57,67	57,61	—	57,47	+0,06	+0,20	3,166
1255	5	37 Ursæ Maj. m	5 16,72	—	5 16,61	10 24 16,73	16,96	—	16,71	—0,23	+0,02	3,935
1256	5.6	48 Leonis	5 2,02	2 2,22	—	10 26 2,08	1,94	—	1,56	+0,14	+0,52	3,141
1257	6	44 Hydræ n	—	5 2,10	—	10 26 2,08	—	—	1,61	—	+0,47	2,843
1258	4	Arg. in car p	7 4,24	—	4 4,08	10 26 4,15	—	—	4,79	—	—0,64	2,114
1259	6	49 Leonis	—	6 13,31	—	10 26 13,31	—	—	12,76	—	+0,55	3,157
1260	6	1 Hyd & Crat	—	6 4,92	—	10 28 4,90	—	—	4,70	—	+0,20	2,924

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in.					Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precessi- on.
	No.	1831	No.	1832	No.	1833.			Green.	A. S. C.	
1216	—	—	4 33	30,96	—	84 33	—	33 24,97	—	+ 5,99	+17,528
1217	—	—	5 59	53,40	—	67 59	—	0 0,85	—	— 7,45	17,577
1218	3 9	47,07	2 9	45,91	—	97 9	—	9 38,96	—	+ 7,65	17,600
1219	6 15	1,46	13 14	59,91	8 14	59,02	15 0,90	15 1,36	-0,91	— 1,37	17,647
1220	—	—	5 25	34,66	—	71 25	—	25 33,47	—	+ 1,19	17,655
1221	6 44	55,96	—	—	7 44	56,44	44 58,76	44 49,87	-2,54	+ 6,35	17,664
1222	2 26	14,31	3 26	15,12	—	75 26	—	26 11,71	—	+ 3,09	17,678
1223	5 17	32,76	—	—	5 17	29,02	—	17 25,05	—	+ 5,84	17,681
1224	—	—	5 13	57,59	—	97 13	—	13 55,34	—	+ 2,25	17,745
1225	5 12	16,09	—	—	—	159 12	—	12 28,09	—	- 12,00	17,765
1226	—	—	5 9	14,40	—	118 9	—	9 14,54	—	- 0,14	17,792
1227	—	—	5 40	49,26	—	69 40	—	40 41,10	—	+ 8,16	17,797
1228	6 18	42,29	11 18	40,07	8 18	41,35	18 41,80	18 40,22	-0,80	+ 0,78	17,802
1229	4 29	41,48	—	—	4 29	43,23	—	29 47,05	—	- 5,30	17,834
1230	5 39	31,21	—	—	6 39	30,46	39 33,02	39 28,95	-2,22	+ 1,85	17,865
1231	—	—	5 52	6,27	—	86 52	—	51 58,48	—	+ 7,79	17,868
1232	2 10	45,57	5 10	47,89	—	74 10	—	10 41,83	—	+ 5,33	17,885
1233	—	—	5 36	25,47	—	82 36	—	36 23,56	—	+ 1,91	17,941
1234	5 12	1,78	—	—	5 12	0,22	—	11 58,62	—	+ 2,38	17,959
1235	5 48	26,43	—	—	6 48	26,19	—	48 22,69	—	+ 3,61	17,978
1236	4 21	4,12	13 21	7,28	8 21	7,04	21 4,01	21 3,29	+2,69	+ 3,41	18,019
1237	1 21	51,24	4 21	54,48	—	80 21	—	21 47,43	—	+ 6,40	18,025
1238	5 58	53,03	—	—	5 58	52,49	58 52,34	58 50,37	+0,42	+ 2,39	18,085
1239	—	—	5 8	15,18	—	90 8	—	8 10,55	—	+ 4,63	18,088
1240	5 26	5,86	—	—	5 26	5,55	26 4,77	26 3,63	+0,94	+ 2,08	18,090
1241	—	—	5 32	6,04	—	93 32	—	32 7,13	—	- 1,09	18,097
1242	—	—	5 23	1,81	—	79 23	—	22 59,59	—	+ 2,22	18,115
1243	5 12	56,66	2 12	55,37	5 12	55,38	12 51,67	12 52,02	+4,24	+ 3,89	18,142
1244	5 9	37,73	—	—	8 9	38,45	9 41,63	9 37,66	-3,46	+ 0,51	18,154
1245	—	—	4 53	5,40	—	92 53	—	—	—	—	18,170
1246	—	—	5 52	53,75	—	91 52	—	52 52,37	—	+ 1,38	18,196
1247	4 10	37,87	—	—	—	163 10	—	11 5,40	—	- 27,53	18,201
1248	3 46	41,76	2 46	43,82	—	89 46	—	46 35,24	—	+ 7,34	18,223
1249	—	—	5 48	21,67	—	118 48	—	48 22,48	—	- 0,81	18,225
1250	—	—	5 59	23,80	—	86 59	—	59 17,40	—	+ 6,40	18,228
1251	—	—	5 44	59,59	—	119 44	—	44 56,94	—	+ 2,65	18,230
1252	—	—	4 0	14,48	—	75 0	—	0 8,25	—	+ 6,23	18,278
1253	—	—	4 29	44,96	—	84 29	—	29 38,16	—	+ 6,80	18,291
1254	5 49	58,31	—	—	5 49	57,31	49 52,80	49 50,25	+5,01	+ 7,56	18,305
1255	5 3	20,46	—	—	6 3	19,81	3 20,02	3 18,08	+0,08	+ 2,02	18,315
1256	—	—	5 11	3,32	—	82 11	11 2,30	10 59,69	+1,02	+ 2,63	18,378
1257	—	—	5 52	51,15	—	112 52	—	52 51,16	—	- 0,01	18,378
1258	6 49	21,96	6 49	21,53	—	150 49	—	49 24,98	—	- 3,24	18,381
1259	—	—	4 29	4,64	—	80 29	—	28 58,00	—	+ 6,64	18,384
1260	3 28	37,07	2 28	37,61	—	105 28	—	28 30,97	—	+ 6,32	18,449

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832		Greenh Catal.	A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831	No. 1832	No. 1833					Green.	A. S.	
			s.	s.	s.	h. m.	s.	s.	s.	s.	s.	s.
1261	4	37 Leonis Min <i>l</i>	9 14,74	1 14,89	3 14,83	10 29	14,79	14,86	14,58	-0,07	+0,21	+3,401
1262	6	Antl. Pneum	—	5 21,20	—	10 29	21,17	—	21,14	—	+0,03	2,811
1263	6.7	50 Leonis	—	4 53,45	1 53,47	10 29	53,48	—	53,26	—	+0,22	3,225
1264	5	Arg in vel <i>p</i>	6 15,96	—	6 15,62	10 30	15,75	—	15,79	—	-0,04	2,514
1265	5	2 Hyd & Crat Φ^3	7 24,15	—	4 24,27	10 30	24,19	—	24,27	—	-0,08	2,922
1266	5	Ursæ Maj.	1 54,76	3 54,98	5 54,44	10 30	54,61	—	54,89	—	-0,28	4,459
1267	6	33 Sextantis <i>m</i>	—	6 51,63	—	10 32	51,63	—	50,95	—	+0,68	3,061
1268	5	Chameel <i>γ</i>	—	—	—	10 33	Invisible	—	23,66	—	—	0,801
1269	5.6	40 Leonis Min	5 47,60	2 47,48	—	10 33	47,57	—	47,01	—	+0,56	3,321
1270	6	34 Sextantis	1 57,34	6 56,98	—	10 33	57,03	—	55,33	—	+1,70	3,106
1271	5.6	41 Leonis Min <i>m</i>	—	6 16,22	—	10 34	16,24	—	15,53	—	+0,71	3,287
1272	7	35 Sextantis	—	5 37,36	—	10 34	37,36	—	36,99	—	+0,37	3,116
1273	5	Argus θ^1	5 18,13	—	3 17,90	10 36	18,00	—	15,97	—	+2,03	2,106
1274	4.5	42 Leonis Min <i>n</i>	8 30,30	1 30,54	3 30,35	10 36	30,34	30,37	29,64	-0,03	+0,70	3,361
1275	6	36 Sextantis <i>n</i>	—	4 30,39	—	10 36	30,39	—	29,61	—	+0,78	3,096
1276	2.3	Argus θ^2	15 58,96	—	3 59,41	10 36	59,02	—	57,15	—	+1,87	2,117
1277	6	37 Sextantis α^1	1 21,07	6 20,85	2 20,58	10 37	20,82	20,60	20,04	+0,22	+0,78	3,128
1278	6	51 Leonis <i>m</i> ²	—	6 21,04	—	10 37	21,06	—	20,93	—	+0,13	3,238
1279	6	52 Leonis <i>k</i>	—	6 31,01	1 30,92	10 37	31,01	—	30,66	—	+0,35	3,195
1280	7	38 Sextantis α^2	—	1 34,81	—	10 38	34,81	34,75	33,92	+0,06	+0,89	3,127
1281	2	Argus <i>η</i>	6 34,11	—	6 34,17	10 38	34,09	—	34,60	—	-0,51	2,300
1282	6	3 Hyd & Crat β^1	—	6 38,68	—	10 38	38,67	—	38,28	—	+0,39	2,931
1283	3	Argus <i>μ</i>	7 33,77	—	4 33,96	10 39	33,82	—	33,50	—	+0,32	2,548
1284	6	53 Leonis <i>l</i>	1 24,69	5 25,26	2 25,37	10 40	25,22	—	25,07	—	+0,15	3,160
1285	6	44 Leonis Min	—	1 38,86	5 38,62	10 40	38,70	—	37,66	—	+1,04	3,518
1286	6	40 Sextantis <i>p</i>	—	1 46,30	5 46,37	10 40	46,36	—	45,48	—	+0,88	3,043
1287	4	4 Hyd & Crat <i>v</i>	2 20,50	3 20,60	3 20,45	10 41	20,50	20,49	20,01	+0,01	+0,49	2,945
1288	6	41 Sextantis <i>r</i>	—	5 52,65	—	10 41	52,65	—	52,40	—	+0,25	3,005
1289	4.5	46 Leonis Min <i>o</i>	8 53,76	—	4 53,83	10 43	53,80	53,60	53,47	+0,20	+0,33	3,375
1290	5	Chameel δ^2	—	—	—	10 44	Invisible	—	5,82	—	—	0,689
1291	5	45 Ursæ Maj. <i>ω</i>	8 16,93	—	4 16,59	10 44	16,84	—	16,38	—	+0,46	3,488
1292	5.6	6 Hyd & Crat β^3	1 16,61	2 16,82	—	10 45	16,74	—	16,63	—	+0,11	2,949
1293	4.5	54 Leonis	8 30,29	—	5 30,22	10 46	30,28	30,36	30,16	-0,08	+0,12	3,271
1294	5	Arg. in car <i>u</i>	6 42,05	—	5 42,11	10 46	42,03	—	43,13	—	-1,10	2,396
1295	6	55 Leonis <i>u</i>	—	5 3,93	—	10 47	3,93	3,75	3,39	+0,18	+0,54	3,080
1296	7	56 Leonis	—	5 17,95	—	10 47	17,95	17,84	17,60	+0,11	+0,35	3,120
1297	6	50 Leonis Min	—	5 26,77	—	10 47	26,79	—	26,07	—	+0,72	3,275
1298	7	57 Leonis	—	—	5 33,46	10 47	33,46	—	33,34	—	+0,12	3,078
1299	5	Antl. Pneum	7 51,23	—	5 54,42	10 48	54,29	—	54,41	—	-0,12	2,769
1300	4	7 Hyd & Crat <i>α</i>	6 35,65	—	6 35,88	10 51	35,76	35,83	35,23	-0,07	+0,53	2,905*
1301	2	48 Ursæ Maj. <i>β</i>	5 39,04	1 39,23	5 38,84	10 51	39,03	39,03	39,16	-0,00	-0,13	3,680
1302	5	58 Leonis <i>d</i>	6 52,96	—	5 53,02	10 51	52,98	52,89	52,68	+0,09	+0,30	3,099
1303	5.6	59 Leonis <i>c</i>	—	7 2,27	—	10 52	2,27	2,23	1,95	+0,04	+0,32	3,116
1304	5.6	61 Leonis <i>s</i>	—	6 15,71	—	10 53	15,71	—	14,96	—	+0,75	3,058
1305	1.2	50 Ursæ Maj. <i>α</i>	6 17,49	19 17,35	21 17,20	10 53	17,37	17,46	17,38	-0,09	-0,01	3,811

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession	
	No. 1831		No. 1832		No. 1833					Green.	A. S. C.		
1261	5	9 11,62	2	9 13,18	6	9 14,21	57 9 14,21	9 12,05	9 10,55	+2,16	+	3,66	+18,488
1262			5	32 37,15			116 32 37,15		32 36,67	+	+	0,48	18,492
1263			5	59 58,79			72 59 58,79		0 0,49	—	—	1,70	18,510
1264	4	21 16,74	1	21 18,98			137 21 17,19		21 22,17	—	—	4,98	18,523
1265	5	0 24,89			6	0 24,44	106 0 24,65		0 19,23	+	+	5,42	18,527
1266	5	2 59,12					20 2 59,12		2 53,29	+	+	5,83	18,543
1267	3	51 40,12	2	51 38,30			90 51 39,40		51 35,88	+	+	3,52	18,608
1268							167 Invisible		44 15,04	—	—		18,628
1269			5	47 36,80			62 47 36,80		47 40,09	—	—	3,29	18,638
1270			5	32 31,48			85 32 31,48		32 25,34	+	+	6,14	18,642
1271			5	56 2,76			65 56 2,76		56 1,50	+	+	1,26	18,653
1272			5	22 23,20			84 22 23,20		22 17,72	+	+	5,48	18,664
1273	5	35 16,14					153 35 16,14		35 25,70	—	—	9,56	18,718
1274	6	26 2,68	7	26 3,58	8	26 4,30	58 26 3,60	26 6,46	26 3,52	—2,86	+	0,08	18,723
1275			5	37 49,04			86 37 49,04		37 45,50	+	+	3,54	18,724
1276	5	30 53,58			5	30 52,17	153 30 52,87		30 52,86	+	+	0,01	18,739
1277	1	44 33,75	9	44 35,77			82 44 35,57	44 37,10	44 35,54	—1,53	+	0,03	18,750
1278							70		13 25,95				18,750
1279							74		55 9,48				18,755
1280							82	46 8,90	46 5,96				18,767
1281	5	48 6,43					148 48 6,43		48 13,26	—	—	6,83	18,789
1282			5	24 45,81			106 24 45,81		24 41,11	+	+	4,70	18,790
1283	6	31 59,47					138 31 59,47		31 45,50	+	+	13,97	18,818
1284			5	34 0,34			78 34 0,34		33 58,62	+	+	1,72	18,843
1285	1	8 25,70	4	8 27,25			61 8 26,94		8 28,80	—	—	1,86	18,849
1286			4	8 12,26			93 8 12,26		8 11,08	+	+	1,18	18,853
1287	5	19 1,95					105 19 1,95	18 59,30	18 56,20	+2,65	+	5,75	18,871
1288			5	0 31,92			98 0 31,92		0 32,17	—	—	0,25	18,886
1289	5	52 59,77			7	52 57,92	54 52 58,69	52 53,03	52 51,03	+5,66	+	7,66	18,944
1290							Invisible		39 20,61				18,953
1291	3	55 3,86	2	55 3,62			45 55 3,77		55 2,60	+	+	1,17	18,955
1292			5	14 9,10			109 14 9,10		13 59,07	+	+	10,03	18,984
1293	5	21 23,52	5	21 22,43	5	21 22,15	64 21 22,70	21 22,56	21 17,92	+0,14	+	4,78	19,018
1294	5	57 42,71					147 57 42,71		57 48,17	—	—	5,46	19,025
1295			5	22 7,05			88 22 7,05	22 9,22	22 4,70	—2,17	+	2,35	19,033
1296			5	55 8,92			82 55 8,92	55 12,21	55 7,37	—3,29	+	1,55	19,040
1297					5	36 13,30	63 36 13,30		36 16,40	—	—	3,10	19,043
1298					3	40 17,70	88 40 17,70		40 18,40	—	—	0,70	19,047
1299	5	14 11,41					126 14 11,41		14 3,66	+	+	7,75	19,084
1300	5	24 19,85					107 24 19,85	24 21,37	24 19,00	—1,52	+	0,85	19,154
1301	1	43 7,35	7	43 7,20	2	43 7,14	32 43 7,20	43 8,92	43 6,90	—1,72	+	0,30	19,155
1302	5	28 59,19					85 28 59,19	28 56,18	28 50,71	+3,01	+	8,48	19,161
1303			5	59 50,20			82 59 50,20	59 52,01	59 49,45	—1,81	+	0,75	19,165
1304	4	34 50,89	4	34 53,96			91 34 52,42		34 51,49	+	+	0,93	19,196
1305	5	20 39,41	22	20 37,41	39	20 38,31	27 20 38,06	20 37,23	20 38,45	+0,83	—	0,39	19,196

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. Greenh January 1, 1832			A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831	No. 1832	No. 1833	h. m. s.	s.	Green.		A. S.		
											s.	
1306	5	60 Leonis <i>b</i>	7 21,07	—	4 21,06	10 53 21,07	—	20,62	—	+0,45	+3,216	
1307	6	8 Hyd & Crat <i>v</i>	—	6 17,28	—	10 54 17,26	—	16,58	—	+0,68	2,884	
1308	7	Leonis	—	6 39,18	—	10 54 39,18	—	38,90	—	+0,28	3,069	
1309	6	62 Leonis <i>p</i> ¹	—	—	2 0,68	10 55 0,68	—	0,35	—	+0,33	3,074	
1310	4.5	63 Leonis <i>z</i>	7 21,11	1 21,07	3 20,94	10 56 21,03	20,95	20,42	+0,08	+0,61	3,086*	
1311	5	9 Hyd & Crat <i>z</i> ¹	8 15 09	3 15,20	6 15,11	10 57 15,11	—	14,90	—	+0,21	2,889	
1312	5.6	Hyd & Crat <i>z</i> ²	—	3 49,61	—	10 57 49,59	—	49,66	—	—0,07	2,890	
1313	5.6	65 Leonis <i>p</i> ²	6 19,94	—	1 20,07	10 58 19,96	—	19,68	—	+0,28	3,086	
1314	6	67 Leonis	—	6 47,58	—	10 59 47,61	—	47,36	—	+0,25	3,234	
1315	3.4	52 Ursæ Maj <i>ψ</i>	8 11,17	4 11,39	—	11 0 11,26	11,40	11,59	—0,14	—0,33	3,419	
1316	5	10 Hyd & Crat	6 37,21	—	6 37,01	11 0 37,10	—	37,06	—	+0,04	2,892	
1317	7	66 Leonis <i>p</i> ³	1 39,45	6 39,14	—	11 0 39,18	—	38,86	—	+0,32	3,066	
1318	7	Leonis	—	6 54,81	—	11 2 54,82	—	54,74	—	+0,08	3,158	
1319	4	11 Hyd & Crat <i>β</i>	6 24,50	—	6 24,45	11 3 24,46	24,40	24,48	+0,06	+0,02	2,937	
1320	3	68 Leonis <i>δ</i>	4 10,11	7 10,18	1 9,96	11 5 10,15	9,98	9,50	+0,17	+0,65	3,193	
1321	5.6	69 Leonis <i>p</i> ⁴	9 10,25	—	—	11 5 10,25	—	9,44	—	+0,81	3,073	
1322	6.7	Leonis	2 18,06	6 17,95	1 17,91	11 5 17,97	—	17,51	—	+0,46	3,118	
1323	3	70 Leonis <i>θ</i>	7 25,01	—	6 25,12	11 5 25,08	25,14	24,61	—0,06	+0,47	3,161	
1324	5.6	72 Leonis <i>ι</i>	—	6 15,50	—	11 6 15,52	—	14,36	—	+1,16	3,207	
1325	5.6	73 Leonis <i>η</i>	—	5 4,21	—	11 7 4,22	—	3,78	—	+0,44	3,146	
1326	6	Leonis	—	6 11,01	1 11,01	11 7 11,03	—	10,80	—	+0,23	3,143	
1327	5	74 Leonis <i>φ</i>	7 7,47	—	6 7,01	11 8 7,26	—	6,73	—	+0,53	3,054	
1328	5.6	75 Leonis <i>χ</i>	—	6 38,70	1 38,73	11 8 38,70	38,73	38,24	—0,03	+0,46	3,083	
1329	4	53 Ursæ Maj. <i>ξ</i>	6 12,38	—	6 12,22	11 9 12,33	12,43	11,67	—0,10	+0,66	3,221*	
1330	4	54 Ursæ Maj. <i>υ</i>	3 23,19	3 23,06	6 23,11	11 9 23,15	23,22	23,08	—0,07	+0,07	3,266	
1331	5	55 Ursæ Maj. <i>p</i>	3 57 19	4 57,24	6 57,14	11 9 57,20	—	56,84	—	+0,36	3,304	
1332	6	76 Leonis	1 17,66	6 17,75	—	11 10 17,73	17,67	17,06	+0,06	+0,67	3,081	
1333	3.4	12 Hyd & Crat <i>δ</i>	2 57,12	5 56,95	6 56,91	11 10 56,94	56,87	56,73	+0,07	+0,21	2,998	
1334	4	77 Leonis <i>α</i>	5 28,61	3 28,41	2 28,38	11 12 28,50	28,36	27,91	+0,14	+0,59	3,071	
1335	4	Centauri <i>π</i>	4 22,49	1 22,87	6 22,80	11 13 22,63	—	21,80	—	+0,83	2,702	
1336	7	Leonis	7 41,91	—	—	11 14 41,91	—	41,71	—	+0,20	3,073	
1337	6	13 Hyd & Crat <i>λ</i>	1 2,70	5 2,73	—	11 15 2,71	—	2,70	—	+0,01	2,984	
1338	4	78 Leonis <i>ι</i>	9 9,97	—	4 9,74	11 15 9,90	9,72	9,38	+0,18	+0,52	3,121	
1339	5.6	79 Leonis <i>τ</i>	—	6 25,16	1 25,13	11 15 25,16	25,13	24,65	+0,03	+0,51	3,079	
1340	5	14 Hyd & Crat <i>ε</i>	7 7,87	—	5 7,95	11 16 7,93	—	7,80	—	+0,13	3,023	
1341	6.7	Leonis	—	6 15,89	—	11 16 15,90	—	15,73	—	+0,17	3,124	
1342	4	15 Hyd & Crat <i>γ</i>	3 29,88	2 30,17	5 29,91	11 16 29,94	29,77	29,26	+0,17	+0,68	2,992	
1343	6	81 Leonis	—	6 50,66	—	11 16 50,66	—	50,55	—	+0,11	3,147	
1344	7	82 Leonis	—	5 1,13	—	11 17 1,13	—	0,92	—	+0,21	3,087	
1345	7	80 Leonis	—	5 12,00	—	11 17 12,00	—	11,60	—	+0,40	3,089	
1346	6	16 Hyd & Crat <i>κ</i>	—	6 42,29	—	11 18 42,28	—	41,67	—	+0,61	3,020	
1347	4	84 Leonis <i>τ</i>	9 18,04	1 18,00	4 17,83	11 19 17,98	17,92	17,48	+0,06	+0,50	3,084	
1348	7	Leonis	—	5 19,04	—	11 19 19,04	—	18,68	—	+0,36	3,065	
1349	6	85 Leonis	2 56,49	6 56,51	—	11 20 56,52	—	55,60	—	+0,92	3,135	
1350	3.4	1 Draconis <i>λ</i>	—	5 19,87	6 19,87	11 21 20,04	20,28	20,57	—0,24	—0,53	3,695	

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precessi- on.	
	No.			No.						Green.	A. S. C.		
	1831	1832	1833	1831	1832	1833							
1306	5 55 11,22	—	—	—	—	—	68 55 11,22	—	55 10,38	+	0,84	+19,198	
1307	—	5 55 25,93	—	—	—	—	115 55 25,93	—	55 20,96	+	4,97	19,222	
1308	—	5 50 45,10	—	—	—	—	89 50 45,10	—	50 34,55	+	10,55	19,231	
1309	—	5 5 52,89	—	—	—	—	89 5 52,89	—	5 47,99	+	4,90	19,240	
1310	5 45 26,74	10 45 24,99	—	—	—	—	81 45 25,57	45 27,43	45 23,43	-1,86	+	2,14	19,272
1311	4 23 18,01	—	—	—	—	—	116 23 18,01	—	23 16,16	+	1,85	19,294	
1312	1 22 52,66	3 22 51,53	—	—	—	—	116 22 51,81	—	22 49,24	+	2,57	19,307	
1313	5 8 3,13	—	—	—	—	—	87 8 3,13	—	7 57,68	+	5,45	19,319	
1314	—	5 26 2,14	—	—	—	—	64 26 2,14	—	25 57,44	+	4,70	19,352	
1315	5 35 32,29	—	—	—	—	—	44 35 32,29	35 29,75	35 28,81	+2,54	+	3,48	19,361
1316	5 10 16,92	—	—	—	—	—	117 10 16,92	—	10 14,29	+	2,63	19,371	
1317	—	5 25 29,63	—	—	—	—	90 25 29,63	—	25 23,65	+	6,58	19,372	
1318	5 41 19,84	—	—	—	—	—	74 41 19,84	—	11 14,52	+	5,32	19,422	
1319	5 54 34,77	—	5 54 35,09	—	—	—	111 54 34,91	54 35,34	54 33,02	-0,43	+	1,89	19,433
1320	5 33 22,64	16 33 20,12	5 33 21,72	—	—	—	68 33 20,91	33 24,88	33 21,88	-3,97	—	0,97	19,469
1321	—	5 9 23,76	—	—	—	—	89 9 23,76	—	9 19,99	+	3,77	19,469	
1322	—	5 1 16,76	—	—	—	—	81 1 16,76	—	1 12,66	+	4,10	19,472	
1323	5 39 7,77	—	5 39 8,88	—	—	—	73 39 8,32	39 12,04	39 8,15	-3,72	+	0,17	19,475
1324	—	5 59 23,56	—	—	—	—	65 59 23,56	—	59 23,42	+	0,14	19,498	
1325	—	5 47 37,67	—	—	—	—	75 47 37,67	—	46 31,41	+	6,26	19,508	
1326	—	5 14 12,05	—	—	—	—	76 14 12,05	—	14 12,20	—	0,15	19,511	
1327	5 44 4,93	—	1 44 4,54	—	—	—	92 44 4,86	—	43 57,28	+	7,58	19,529	
1328	—	5 4 2,33	—	—	—	—	87 4 2,33	4 0,96	3 58,98	+1,37	+	3,35	19,539
1329	4 31 34,00	2 31 32,95	5 31 34,48	—	—	—	57 31 34,03	31 36,54	31 37,61	-2,51	—	3,58	20,190*
1330	1 59 26,29	4 59 24,64	5 59 25,58	—	—	—	55 59 25,27	59 22,83	59 20,52	+2,44	+	4,75	19,554
1331	2 53 41,12	3 53 39,08	—	—	—	—	50 53 39,90	—	53 33,85	+	6,05	19,564	
1332	2 25 45,85	3 25 45,87	—	—	—	—	87 25 45,86	—	25 42,63	+	3,23	19,571	
1333	2 52 13,31	4 52 8,58	—	—	—	—	103 52 10,16	52 14,40	52 7,51	-4,24	+	2,65	19,583
1334	5 3 1,01	—	5 3 0,63	—	—	—	83 3 0,82	3 4,71	3 3,66	-3,89	—	2,84	19,611
1335	5 34 15,92	—	5 34 14,51	—	—	—	143 34 15,21	—	34 23,97	—	8,76	19,627	
1336	—	4 56 47,89	—	—	—	—	88 56 47,89	—	56 46,06	+	1,83	19,650	
1337	—	4 51 25,53	—	—	—	—	107 51 25,53	—	51 23,27	+	2,26	19,657	
1338	4 32 41,24	7 32 41,61	5 32 42,09	—	—	—	78 32 42,35	32 46,97	32 42,23	-4,62	+	0,12	19,658
1339	—	5 40 15,36	—	—	—	—	87 40 15,36	40 16,04	40 9,32	-0,68	+	6,04	19,663
1340	5 56 24,15	1 56 21,95	—	—	—	—	99 56 23,78	—	56 13,41	+	10,37	19,675	
1341	1 38 49,61	5 38 48,36	—	—	—	—	77 38 48,57	—	38 47,31	+	1,26	19,677	
1342	7 45 42,08	—	2 45 40,90	—	—	—	106 45 41,82	45 43,82	45 39,54	-2,00	+	2,28	19,681
1343	—	6 37 12,59	—	—	—	—	82 37 12,59	—	37 10,84	+	1,75	19,687	
1344	—	5 46 30,44	—	—	—	—	85 46 30,44	—	46 22,62	+	8,42	19,689	
1345	—	4 13 0,33	1 13 0,89	—	—	—	85 13 0,44	—	12 52,64	+	7,80	19,692	
1346	—	5 26 3,40	—	—	—	—	101 26 3,40	—	26 1,28	+	2,12	19,716	
1347	6 13 9,80	1 13 9,24	6 13 10,68	—	—	—	86 13 10,17	13 10,19	13 6,00	-0,02	+	4,17	19,726
1348	1 46 33,35	4 46 35,13	—	—	—	—	90 46 34,77	—	46 32,41	+	2,36	19,726	
1349	—	5 39 30,42	—	—	—	—	73 39 30,42	—	39 32,19	—	1,77	19,750	
1350	—	5 44 36,85	5 44 36,73	—	—	—	19 44 36,79	44 35,72	44 35,38	+1,07	+	1,41	19,756

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832			Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion		
			No. 1831 No. 1832 No. 1833								Green.	A. S.			
			s.	s.	s.	h. m. s.	s.	s.				s.	s.	s.	
1351	6	86 Leonis	—	6 42,72	—	11 21 42,74	—	—	—	41,61	—	+1,13	+3,146		
1352	4.5	87 Leonis <i>e</i>	7 44,03	—	5 44,04	11 21 44,03	—	44,03	44,03	43,97	-0,00	+0,06	3,060		
1353	7	Hyd & Crat	5 23,94	2 24,20	—	11 23 24,01	—	—	—	23,86	—	+0,15	3,047		
1354	5.6	17 Hyd & Crat	—	6 57,65	—	11 23 57,63	—	—	—	58,56	—	-0,93	2,955		
1355	7	Hyd & Crat	—	5 15,80	—	11 24 15,80	—	—	—	15,16	—	+0,64	3,043		
1356	4	19 Hyd & Crat ξ	7 45,51	—	5 45,38	11 24 45,44	—	45,41	45,41	44,66	+0,03	+0,78	2,945		
1357	6	89 Leonis <i>H</i>	2 46,06	7 46,10	1 46,27	11 25 46,11	—	—	—	45,77	—	+0,34	3,082		
1358	6	90 Leonis <i>C</i>	—	4 57,51	—	11 25 57,53	—	—	—	57,19	—	+0,34	3,131		
1359	6	Ursæ Min.	5 26,51	1 26,77	—	11 27 26,56	—	—	—	26,48	—	+0,08	3,172		
1360	4	Centauri λ	8 4,88	—	6 4,85	11 28 4,77	—	—	—	2,89	—	+1,88	2,717		
1361	4	21 Hyd & Crat θ	8 9,89	—	4 10,05	11 28 9,94	—	10,00	10,00	9,49	-0,06	+0,45	3,039		
1362	4.5	91 Leonis <i>v</i>	6 21,07	—	6 20,98	11 28 21,03	—	21,12	21,12	20,65	-0,09	+0,38	3,068		
1363	6.7	1 Virginis <i>w</i>	1 47,57	7 47,80	2 47,71	11 29 47,76	—	—	—	47,51	—	+0,25	3,096		
1364	7	Virginis	—	6 49,37	—	11 29 49,37	—	—	—	48,93	—	+0,44	3,063		
1365	5.6	24 Hyd & Crat	—	4 8,59	—	11 30 8,58	—	—	—	8,34	—	+0,27	3,030		
1366	5.6	92 Leonis	3 2,36	3 2,19	—	11 32 2,28	—	—	—	2,17	—	+0,11	3,135		
1367	6.7	Virginis	7 20,51	—	—	11 35 20,51	—	—	—	20,30	—	+0,21	3,054		
1368	4	27 Hyd & Crat ζ	8 15,53	4 15,52	1 15,70	11 36 15,54	—	15,49	15,49	14,98	+0,05	+0,56	3,025		
1369	5	2 Virginis ξ^1	9 37,36	1 37,30	4 37,43	11 36 37,37	—	37,19	37,19	36,47	+0,18	+0,90	3,090		
1370	4	63 Ursæ Maj. α	5 8,99	1 9,07	6 8,72	11 37 8,91	—	9,00	9,00	8,21	-0,09	+0,70	3,220		
1371	4.5	3 Virginis <i>v</i>	5 13,29	4 13,29	4 13,45	11 37 13,34	—	13,43	13,43	13,20	-0,09	+0,14	3,086		
1372	5.6	4 Virginis ξ^2	1 17,12	5 17,10	—	11 39 17,10	—	—	—	16,18	—	+0,92	3,088		
1373	4	93 Leonis <i>E</i>	2 19,05	4 18,88	6 18,65	11 39 18,81	—	18,80	18,80	18,39	+0,01	+0,42	3,115		
1374	6	Hyd & Crat	—	6 17,05	—	11 40 17,03	—	—	—	16,48	—	+0,55	3,012		
1375	2.3	94 Leonis β	3 29,07	23 29,23	6 29,14	11 40 29,21	—	29,18	29,18	28,90	+0,03	+0,31	3,064*		
1376	3.4	5 Virginis β	8 56,79	17 56,98	1 56,84	11 41 56,92	—	56,90	56,90	56,43	+0,02	+0,49	3,124*		
1377	6	Virginis <i>B</i>	6 27,18	—	—	11 42 27,18	—	—	—	26,71	—	+0,47	3,060		
1378	4	28 Hyd & Crat β	6 26,65	6 26,52	—	11 44 26,57	—	26,42	26,42	26,51	+0,15	+0,06	3,009		
1379	2	64 Ursæ Maj γ	7 57,42	11 57,45	23 57,45	11 44 57,52	—	57,42	57,42	57,21	+0,10	+0,31	3,192		
1380	6	6 Virginis Δ	6 25,85	2 26,08	—	11 46 25,91	—	—	—	25,60	—	+0,31	3,081		
1381	6	29 Hyd & Crat	—	6 8,66	—	11 47 8,64	—	—	—	8,39	—	+0,25	3,029		
1382	6	30 Hyd & Crat η	—	5 27,85	—	11 47 27,84	—	—	—	27,75	—	+0,09	3,047		
1383	7	Virginis	—	6 37,42	1 37,29	11 49 37,40	—	—	—	37,09	—	+0,31	3,073		
1384	5	Chamœl <i>ε</i>	—	—	—	11 51 invisible	—	—	—	19,72	—	—	2,842		
1385	5.6	7 Virginis <i>b</i>	1 20,69	7 20,67	—	11 51 20,67	—	—	—	20,48	—	+0,19	3,072		
1386	5	8 Virginis π	13 15,84	9 15,79	—	11 52 15,81	—	15,15	15,15	15,76	+0,66	+0,05	3,074		
1387	5.6	31 Hyd & Crat	—	—	6 16,42	11 52 16,40	—	—	—	15,89	—	+0,51	3,053		
1388	7	Virginis	—	6 26,04	—	11 52 26,04	—	—	—	25,78	—	+0,26	3,067		
1389	6	1 Comæ Ber	5 7,58	1 7,57	—	11 53 7,58	—	—	—	6,71	—	+0,87	3,085		
1390	7	Virginis	6 9,92	1 10,07	3 10,01	11 55 9,97	—	—	—	10,11	—	-0,14	3,071		
1391	6	2 Comæ Ber	—	6 40,03	—	11 55 40,05	—	—	—	39,32	—	+0,73	3,079		
1392	4.5	9 Virginis <i>o</i>	15 39,12	5 39,16	—	11 56 39,13	—	39,02	39,02	38,85	+0,11	+0,28	3,071		
1393	7	Virginis	1 24,01	3 24,08	—	11 57 24,06	—	—	—	23,81	—	+0,25	3,067		
1394	4.5	Crucis η	6 10,93	—	—	11 58 10,93	—	—	—	11,33	—	-0,40	3,046		
1395	3	Centauri δ	6 41,32	—	6 41,46	11 59 41,35	—	—	—	41,69	—	-0,34	3,065		

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precession
	No. 1831	No. 1832	No. 1833				Green.	A. S. C.	
1351	4 39 57,47	—	—	70 39 57,47	—	39 52,76	—	+ 4,71	+ 19,762
1352	5 4 40,05	1 4 39,62	5 4 38,95	92 4 39,51	4 39,05	4 36,76	+ 0,46	+ 2,75	19,762
1353	5 32 23,44	—	—	95 32 23,44	—	32 20,19	—	+ 3,25	19,786
1354	—	5 20 25,61	—	118 20 25,61	—	20 24,55	—	+ 1,06	19,794
1355	5 54 1,79	—	—	96 54 1,79	—	53 59,27	—	+ 2,52	19,798
1356	5 55 43,98	7 55 42,52	5 55 42,22	120 55 42,89	55 41,64	55 43,61	+ 1,25	— 0,72	19,805
1357	2 0 24,91	4 0 26,92	—	86 0 26,25	—	0 22,93	—	+ 3,32	19,818
1358	—	5 16 30,92	—	72 16 30,92	—	16 27,90	—	+ 3,02	19,820
1359	—	5 17 25,84	—	61 17 25,84	—	17 24,01	—	+ 1,83	19,839
1360	5 5 28,74	—	2 5 25,25	152 5 27,74	—	5 29,73	—	— 1,99	19,847
1361	6 52 21,51	—	5 52 23,54	98 52 22,43	52 25,69	52 19,79	— 3,26	+ 2,64	19,848
1362	6 53 50,85	2 53 51,85	6 53 52,52	89 53 51,70	53 49,33	53 46,61	+ 2,37	+ 5,09	19,850
1363	4 56 11,52	—	—	80 56 11,52	—	56 10,60	—	+ 0,92	19,868
1364	3 30 24,12	2 30 23,95	—	91 30 24,05	—	30 22,55	—	+ 1,50	19,868
1365	—	5 17 38,95	—	102 17 38,95	—	16 36,28	—	+ 2,67	19,872
1366	5 42 46,97	—	—	67 42 46,97	—	42 47,32	—	— 0,35	19,892
1367	1 44 37,66	4 44 37,60	—	95 44 37,61	—	44 32,05	—	+ 5,56	19,926
1368	5 25 0,99	15 24 58,39	—	107 24 59,04	25 1,87	24 59,51	— 2,83	— 0,47	19,934
1369	5 48 31,78	—	3 48 31,03	80 48 31,50	48 29,96	48 23,29	+ 1,54	+ 8,21	19,937
1370	5 17 19,27	—	—	41 17 19,27	17 21,71	17 20,92	— 2,44	— 1,65	19,942
1371	5 31 42,61	—	—	82 31 42,61	31 44,91	31 44,88	— 2,30	+ 2,27	19,943
1372	1 49 19,20	4 49 17,75	—	80 49 18,04	—	49 13,26	—	+ 4,78	19,960
1373	5 50 48,45	—	—	68 50 48,45	50 52,09	50 49,32	— 3,64	— 0,87	19,960
1374	—	5 48 58,18	—	115 48 58,18	—	48 54,84	—	+ 3,34	19,968
1375	7 29 19,61	13 29 20,01	22 29 20,65	74 29 20,27	29 20,38	29 15,64	— 0,11	+ 4,63	19,969
1376	8 17 19,24	7 17 19,87	5 17 18,77	87 17 19,35	17 19,68	17 17,60	— 0,33	+ 1,75	19,980
1377	4 23 57,85	1 23 57,45	—	94 23 57,77	—	23 53,75	—	+ 4,02	19,983
1378	6 58 20,90	—	—	122 58 20,90	58 24,04	58 24,95	— 3,14	— 4,05	19,996
1379	7 22 18,72	21 22 19,46	21 22 20,07	25 22 18,72	22 15,55	22 18,27	+ 3,17	+ 0,45	19,999
1380	3 37 20,56	2 37 20,20	—	80 37 20,42	—	37 15,19	—	+ 5,23	20,007
1381	5 32 22,35	—	—	117 32 22,35	—	32 23,99	—	— 1,64	20,011
1382	1 12 54,25	—	—	106 12 54,25	—	12 50,07	—	+ 4,18	20,012
1383	—	5 34 59,78	—	85 34 59,78	—	34 55,96	—	+ 3,82	20,022
1384	—	—	—	167 Invisible	—	17 15,24	—	—	20,028
1385	5 24 34,43	—	—	85 24 34,43	—	24 30,57	—	+ 3,86	20,028
1386	9 26 55,08	—	7 26 55,32	82 26 55,18	26 50,30	26 53,79	+ 4,88	+ 1,39	20,031
1387	2 43 23,52	—	—	108 43 23,52	—	43 18,65	—	+ 4,87	20,031
1388	—	4 49 40,12	—	90 49 40,12	—	49 40,47	—	— 0,35	20,031
1389	—	4 58 7,49	—	66 58 7,49	—	58 10,00	—	— 2,51	20,033
1390	—	5 30 6,81	—	83 30 6,81	—	30 5,72	—	+ 1,09	20,038
1391	1 36 14,27	4 36 15,89	—	67 36 15,57	—	36 12,97	—	+ 2,60	20,039
1392	12 20 4,51	—	10 20 3,83	80 20 4,20	20 0,44	20 0,55	+ 3,76	+ 3,65	20,040
1393	3 11 43,60	—	—	92 11 43,60	—	11 39,33	—	+ 4,27	20,041
1394	5 40 20,26	—	—	153 40 20,26	—	40 37,32	—	— 8,06	20,042
1395	9 47 15,07	7 47 13,33	—	139 47 14,35	—	47 16,33	—	— 1,98	20,043

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832			Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831	No. 1832	No. 1833						Green.	A. S.	
			s.	s.	s.	h.	m.	s.	s.	s.	s.	s.	s.
1396	4.5	1 Corvi	3 45,83	8 45,82	12 45,91	11	59	45,85	45,79	45,65	+0,06	+0,20	+3,067
1397	6	10 Virginis	3 4,73	4 5,18	1 5,10	12	1	5,00		4,53		+0,47	3,068
1398	4	2 Corvi	6 30,07	—	6 29,88	12	1	29,96	29,89	29,64	+0,07	+0,32	3,071
1399	7	11 Virginis	—	6 29,79	2 29,75	12	1	29,78		29,91		—0,13	3,067
1400	6	3 Corvi	—	5 26,07	—	12	2	26,05		25,51		+0,51	3,074
1401	4	Centauri	6 51,57	—	6 54,77	12	2	54,57		53,42		+1,15	3,088
1402	6	4 Comæ Ber	—	6 19,39	—	12	3	19,40		19,15		+0,25	3,059
1403	6	5 Comæ Ber	—	6 36,26	—	12	3	36,27		35,75		+0,52	3,060
1404	5	Draconis	1 13,20	5 13,52	3 12,10	12	4	13,47		14,60		—0,53	2,949
1405	6	12 Virginis	2 52,63	4 52,60	—	12	4	52,61		52,07		+0,54	3,063
1406	3	Crucis	7 16,82	—	6 17,31	12	6	17,00		14,77		+2,23	3,125
1407	3	69 Ursæ Maj.	8 4,40	—	4 4,29	12	7	4,40	4,38	3,59	+0,02	+0,81	3,003
1408	3	4 Corvi	6 10,69	—	9 10,68	12	7	10,69	10,69	10,37	0,00	+0,32	3,080
1409	5	6 Comæ Ber	—	4 28,32	6 28,05	12	7	28,17		27,68		+0,49	3,056
1410	5	7 Comæ Ber	5 50,28	1 49,99	—	12	7	50,23		49,88		+0,35	3,047
1411	5	Chamæol	—	—	—	12	8	—		46,03		—	3,313
1412	6	13 Virginis	6 3,77	6 3,74	2 3,91	12	10	3,78	3,78	3,50	0,00	+0,28	3,068
1413	6.7	14 Virginis	—	6 41,89	—	12	10	41,88		41,62		+0,26	3,077
1414	6	8 Comæ Ber	—	6 49,84	—	12	10	49,86		49,16		+0,70	3,040
1415	3.4	15 Virginis	5 18,73	—	5 18,41	12	11	18,57	18,69	18,77	—0,12	—0,20	3,068
1416	6	10 Comæ Ber	—	6 23,28	—	12	11	23,30		22,57		+0,73	3,031
1417	5.6	16 Virginis	1 49,34	4 49,60	5 49,27	12	11	49,42	48,47	48,47	+0,95	+0,95	3,026*
1418	5.6	5 Corvi	—	4 52,21	—	12	11	52,20		51,95		+0,25	3,095
1419	5	11 Comæ Ber	5 13,48	—	6 13,54	12	12	13,52		12,86		+0,66	3,044
1420	6	Corvi	—	1 16,01	4 15,99	12	12	15,99		15,65		+0,34	3,084
1421	4	Crucis	—	4 21,35	4 21,20	12	12	21,19		19,52		+1,67	3,159
1422	6	17 Virginis	—	6 59,74	1 59,68	12	13	59,74		58,80		+0,94	3,059
1423	5	12 Comæ Ber	9 3,18	—	5 2,92	12	14	3,11		2,94		+0,17	3,027
1424	5.6	6 Corvi	—	6 37,39	—	12	14	37,37		37,35		+0,02	3,106
1425	5	13 Comæ Ber	6 52,42	—	6 52,26	12	15	52,36		51,62		+0,74	3,021
1426	4	Crucis	1 14,71	—	6 14,27	12	17	14,20		12,41		+1,79	3,257
1427	1	Crucis	5 18,98	2 18,75	4 19,29	12	17	18,99		17,62		+1,37	3,258
1428	5	14 Comæ Ber	2 59,72	1 59,56	2 59,26	12	17	59,52		58,90		+0,62	3,012
1429	5	15 Comæ Ber	—	6 33,57	—	12	18	33,59		32,90		+0,69	3,008
1430	4.5	16 Comæ Ber	5 31,86	—	3 34,67	12	18	34,80	34,82	34,13	+0,02	+0,67	3,011
1431	5	Centauri	5 59,68	3 59,89	—	12	18	59,75		—0,23		—0,48	3,196
1432	6.7	Virginis	—	4 14,83	—	12	19	14,83		14,55		+0,28	3,075
1433	4	Centauri	1 28,25	4 28,20	—	12	19	28,18		28,44		—0,26	3,156
1434	7	Virginis	—	6 45,10	—	12	19	45,11		44,63		+0,48	3,057
1435	5.6	17 Comæ Ber	—	2 30,83	4 30,79	12	20	30,82		30,30		+0,52	3,008
1436	6	18 Comæ Ber	—	—	6 2,32	12	21	2,35		2,02		+0,33	3,011
1437	3	7 Corvi	2 10,80	4 11,07	—	12	21	10,98	11,06	11,25	—0,08	—0,27	3,102
1438	6.7	Virginis	—	—	6 25,75	12	21	25,74		26,11		—0,37	3,095
1439	2.3	Crucis	5 54,05	1 54,06	—	12	21	54,04		54,51		—0,47	3,257
1440	6	19 Virginis	—	—	4 1,63	12	22	1,64		1,28		+0,36	3,044

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precession
	No. 1831	No. 1832	No. 1833				Green.	A. S. C.	
	" "	" "	" "	" "	" "	" "	" "	" "	" "
1396	5 47 25,70	6 47 23,91	6 47 24,59	113 47 24,68	47 28,41	47 27,60	-3,76	2,92	+20,043
1397	—	5 9 31,44	—	87 9 31,44	—	9 30,44	—	1,00	20,042
1398	—	—	6 41 3,90	111 41 3,90	41 4,50	41 7,18	-0,60	3,28	20,042
1399	—	5 15 28,92	—	83 15 28,92	—	15 23,52	—	5,40	20,042
1400	—	6 39 57,44	—	112 39 57,44	—	39 55,98	—	1,46	20,042
1401	5 25 56,83	—	—	141 25 56,83	—	26 7,32	—	10,49	20,041
1402	—	5 11 31,35	—	63 11 31,35	—	11 31,81	—	3,46	20,041
1403	—	5 31 13,86	—	68 31 13,86	—	31 17,91	—	4,05	20,040
1404	—	5 26 59,50	—	11 26 59,50	—	26 57,43	—	2,07	20,039
1405	—	5 48 5,77	—	78 48 5,77	—	48 4,23	—	1,54	20,038
1406	6 48 46,84	—	6 48 46,13	147 48 46,48	—	48 55,31	—	8,83	20,035
1407	6 2 2,70	—	6 2 0,83	32 2 1,76	2 0,22	2 4,41	+1,54	2,65	20,033
1408	1 36 29,53	4 36 29,14	—	106 36 29,22	36 30,42	36 25,74	-1,20	3,48	20,033
1409	—	5 9 51,84	—	74 9 51,84	—	9 49,73	—	2,11	20,032
1410	—	4 7 15,25	2 7 13,17	65 7 14,65	—	7 9,43	—	5,12	20,031
1411	—	—	—	168 Invisible	—	22 54,24	—	—	20,028
1412	—	5 51 13,14	—	89 51 13,14	51 9,83	51 7,83	+3,31	5,31	20,024
1413	—	5 58 43,54	—	97 58 43,54	—	58 43,42	—	0,12	20,021
1414	—	3 1 51,23	—	66 1 51,23	—	1 42,88	—	8,35	20,021
1415	7 43 59,26	8 43 57,10	7 43 59,79	89 43 58,64	43 56,93	43 53,70	+1,71	4,94	20,019
1416	—	5 36 6,38	—	60 36 6,38	—	36 6,33	—	0,05	20,018
1417	—	6 45 2,04	—	85 45 2,04	45 4,50	45 0,87	-2,46	1,17	20,016
1418	—	5 16 50,42	—	111 16 50,42	—	16 50,69	—	0,27	20,017
1419	4 16 41,10	—	—	71 16 41,10	—	16 39,40	—	1,70	20,015
1420	—	—	5 37 57,23	102 37 57,23	—	37 57,91	—	0,68	20,014
1421	5 28 21,07	—	—	149 28 21,07	—	28 24,15	—	3,08	20,014
1422	—	5 45 31,28	—	83 45 31,28	—	45 28,92	—	2,36	20,006
1423	2 13 13,77	3 13 11,99	—	63 13 12,70	—	13 15,45	—	2,75	20,005
1424	—	6 54 23,67	—	113 54 23,67	—	54 23,79	—	0,12	20,002
1425	5 58 4,40	1 58 3,65	—	62 58 4,27	—	58 7,27	—	3,00	19,995
1426	—	—	—	152 11 —	—	11 32,97	—	—	19,987
1427	6 10 0,96	4 10 3,03	5 10 0,39	152 10 1,32	—	10 7,97	—	6,65	19,986
1428	—	5 47 59,96	—	61 47 59,96	—	47 58,53	—	1,43	19,982
1429	—	5 47 47,38	—	60 47 47,38	—	47 47,15	—	0,23	19,978
1430	5 14 33,38	—	11 14 34,43	62 14 34,10	14 34,62	14 31,73	-0,52	2,37	19,978
1431	4 17 54,66	—	4 17 56,13	139 17 55,40	—	17 41,83	—	13,57	19,975
1432	—	5 41 1,33	—	93 41 1,33	—	40 59,64	—	1,69	19,973
1433	2 6 32,60	2 6 34,76	—	128 6 33,68	—	6 25,29	—	8,39	19,971
1434	—	6 40 23,05	—	84 40 23,05	—	40 16,82	—	6,23	19,969
1435	—	5 9 20,49	—	63 9 20,49	—	9 21,99	—	1,50	19,963
1436	—	4 56 41,99	—	64 56 41,99	—	57 33,76	—	51,77	19,959
1437	3 34 47,62	11 34 46,52	—	105 34 46,76	34 45,23	34 41,19	+1,53	5,57	19,958
1438	—	5 27 36,40	—	102 27 36,40	—	27 37,81	—	1,41	19,956
1439	5 10 16,13	—	—	146 10 16,13	—	10 4,66	—	11,47	19,952
1440	—	—	5 21 9,09	79 21 9,09	—	21 1,66	—	7,43	19,951

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832	Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion
									Green.	A. S.	
			No. 1831	No. 1832	No. 1833						
			s.	s.	s.	h. m. s.	s.	s.	s.	s.	
1441	4	Muscae γ	—	1 33,22	—	12 22 33,11	—	34,34	—	-1,23	+3,452
1442	5.6	21 Comæ Ber g	—	6 36,82	—	12 22 36,84	—	36,73	—	+0,11	3,066
1443	6.7	Virginis	—	5 1,24	—	12 23 1,23	—	0,87	—	+0,36	3,078
1444	4.5	8 Corvi η	6 25,62	—	—	12 23 25,62	25,45	25,47	+0,17	+0,15	3,105
1445	6	20 Virginis	—	2 32,78	3 32,63	12 24 32,70	—	32,36	—	+0,34	3,040
1446	5.6	21 Virginis η	1 6,85	5 7,03	—	12 25 7,00	—	6,79	—	+0,21	3,090
1447	6	22 Comæ Ber	—	—	6 11,49	12 25 11,52	—	11,72	—	+0,30	2,999
1448	2.3	9 Corvi β	7 34,73	—	—	12 25 34,73	34,66	34,05	+0,07	+0,08	3,129
1449	4.5	8 Canum Ven d	5 44,90	—	—	12 25 44,90	44,90	44,84	0,00	+0,06	2,864*
1450	3.4	5 Draconis κ	3 15,95	2 15,80	—	12 26 15,93	15,84	14,92	+0,09	+1,01	2,600*
1451	4.5	23 Comæ Ber k	1 28,40	4 28,49	2 28,34	12 26 28,45	28,73	28,04	-0,28	+0,41	3,001
1452	5.6	24 Comæ Ber l	—	2 41,61	3 41,87	12 26 41,79	—	41,52	—	+0,27	3,014
1453	4	Muscae α	2 16,05	4 15,77	—	12 27 15,81	—	16,19	—	-0,38	3,463
1454	6.7	25 Virginis f	2 8,78	2 8,67	—	12 28 8,72	—	8,20	—	+0,52	3,082
1455	6	25 Comæ Ber	—	1 32,76	5 32,67	12 28 32,70	—	31,89	—	+0,81	3,014
1456	5	Centauri τ	5 33,27	—	5 33,12	12 28 33,16	—	33,30	—	-0,14	3,249
1457	5.6	Hyd & Crat d	—	6 48,79	—	12 28 48,77	—	48,56	—	+0,21	3,150
1458	7	Virginis	—	6 48,66	1 48,57	12 29 48,66	—	48,50	—	-0,16	3,060
1459	6.7	Virginis	—	3 5,60	2 5,50	12 30 5,55	—	5,41	—	+0,14	3,079
1460	4	26 Virginis α	—	6 35,18	—	12 30 35,17	35,01	34,51	+0,16	+0,66	3,090
1461	6	26 Comæ Ber m	—	—	6 45,52	12 30 45,54	—	44,95	—	+0,58	2,996
1462	5	Centauri l	10 48,74	—	1 48,67	12 30 48,74	—	48,68	—	+0,06	3,213
1463	3	Centauri γ	7 17,58	—	—	12 32 17,58	—	18,27	—	-0,69	3,276
1464	6	27 Virginis	—	—	6 6,51	12 33 6,51	—	5,39	—	+1,12	3,030
1465	4	29 Virginis γ_1	3 9,13	6 8,97	5 9,26	12 33 9,08	9,13	8,83	-0,05	+0,25	3,022*
1466	4	Virginis γ_2	—	4 9,14	—	12 33 9,14	—	9,07	—	+0,07	3,022*
1467	6	28 Virginis	1 16,73	3 17,08	2 17,07	12 33 17,01	—	16,77	—	+0,24	3,090
1468	5	30 Virginis ρ	—	6 22,88	—	12 33 22,89	—	22,31	—	+0,58	3,030
1469	6	31 Virginis δ_1	—	—	5 26,42	12 33 26,43	—	26,15	—	+0,28	3,042
1470	6	Hyd & Crat e	—	5 4,67	—	12 35 4,65	—	4,26	—	+0,39	3,173
1471	4	Muscae β	4 4,72	3 4,68	—	12 36 4,67	—	5,19	—	-0,82	3,564
1472	6	33 Virginis	—	5 50,67	—	12 37 50,68	—	50,43	—	+0,25	3,027
1473	2	Crucis β	8 58,02	—	3 58,41	12 37 58,10	—	58,84	—	-0,74	3,430
1474	6	27 Comæ Ber n	7 15,17	—	—	12 38 15,17	—	14,89	—	+0,28	2,998
1475	6	34 Virginis	2 45,95	4 46,17	—	12 38 46,10	—	46,05	—	+0,05	3,017
1476	6.7	Virginis	3 53,28	5 52,96	—	12 38 53,03	—	52,73	—	+0,30	3,089
1477	6	35 Virginis	3 18,23	4 18,41	—	12 39 18,34	—	17,98	—	+0,36	3,050
1478	6	29 Comæ Ber o	2 29,14	4 29,03	—	12 40 29,07	—	28,18	—	+0,89	3,005
1479	6	30 Comæ Ber	—	5 5,81	—	12 41 5,83	—	5,57	—	+0,26	2,939
1480	6.7	Virginis	1 38,97	5 39,08	—	12 42 39,06	—	38,71	—	+0,35	3,109
1481	6	37 Virginis	—	6 4,08	—	12 43 4,09	—	3,74	—	+0,35	3,051
1482	5.6	31 Comæ Ber p	—	6 30,57	—	12 43 30,59	—	30,26	—	+0,33	2,932
1483	5	Centauri n	10 9,83	—	4 9,78	12 44 9,81	—	9,54	—	+0,27	3,277
1484	6	38 Virginis	1 35,82	5 35,44	—	12 44 35,50	—	35,21	—	+0,29	3,080
1485	5	Centauri o	7 46,87	—	4 47,88	12 44 47,21	—	47,01	—	+0,20	3,455

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from			Annual Precessi- on.
	No.	1831	No.	1832	No.	1833				Green.	A.	S. C	
		"		"		"		"		"	"		
1441		—	1 12 13,63		3 12 14,24	161 12 14,09		12 10 59		+	3,50	+ 19,946	
1442		—	5 30 13,12		—	64 30 13,12		30 10,38		+	2,74	19,946	
1443		—	—		5 7 28,79	94 7 28,79		7 27,31		+	1,48	19,943	
1444	4 15 56,11		2 15 56,17		—	105 15 56,13	15 52,33	15 47,73	+3,80	+	8,40	19,939	
1445		—	4 46 29,66		—	78 46 29,66		46 34,12		—	4,46	19,929	
1446		—	6 31 23,97		—	98 31 23,97		31 22,75		+	1,22	19,923	
1447		—	—		4 47 21,85	64 47 21,85		47 17,49		+	4,86	19,923	
1448	3 27 59,83		3 27 59,25		—	112 27 59,54	27 58,06	27 59,40	+1,48	+	0,14	19,919	
1449		—	5 43 39,71		—	47 43 39,71	43 42,60	43 37,95	-3,89	+	1,76	19,917	
1450	6 17 5,13		—		—	19 17 5,13	17 4,41	17 6,63	+0,72	—	1,50	19,912	
1451	1 26 37,34		4 26 39,35		—	66 26 38,95	26 40,75	26 38,89	-1,80	+	0,06	19,910	
1452		—	5 41 49,36		—	70 41 49,36		41 46,08		+	3,28	19,908	
1453	5 12 24,80		—		1 12 24,90	158 12 24,82		12 26,26		—	1,44	19,902	
1454		—	2 54 19,92		3 54 21,32	94 54 20,76		54 15,94		+	4,82	19,893	
1455		—	—		4 59 0,61	71 59 0,61		59 0,60		+	0,01	19,889	
1456	5 36 52,32		—		—	137 36 52,32		36 49,12		+	3,20	19,888	
1457		—	5 12 32,04		—	116 12 32,04		12 25,64		+	6,40	19,886	
1458		—	—		6 13 10,35	87 13 10,35		13 7,08		+	3,27	19,874	
1459		—	—		5 26 52,01	93 26 52,01		26 53,18		—	1,17	19,871	
1460		—	—		—	97 — —	4 12,03	4 6,44			—	19,866	
1461		—	5 0 41,11		—	68 0 41,11		0 43,33		—	2,22	19,864	
1462	3 3 39,12		1 3 40,40		—	129 3 39,44		3 36,91		+	2,50	19,863	
1463	5 2 2,16		—		2 2 4,33	138 2 2,78		2 0,79		+	1,99	19,845	
1464		—	5 38 58,91		—	78 38 58,91		39 1,26		—	2,35	19,835	
1465		—	9 31 38,42		—	90 31 38,42	31 36,32	31 35,55	+2,10	+	2,87	19,835	
1466		—	9 31 38,42		—	90 31 38,42		31 36,55		+	1,87	19,835	
1467		—	5 34 28,47		—	96 34 28,47		34 25,49		+	2,98	19,833	
1468		—	3 50 9,54		3 50 11,35	78 50 10,45		50 8,45		+	2,00	19,832	
1469		—	—		5 16 12,37	82 16 12,37		46 6,41			—	19,831	
1470		—	5 24 0,32		—	117 24 0,32		23 56,27		+	4,05	19,810	
1471	6 11 13,44		—		—	157 11 13,44		11 10,39		+	3,05	19,796	
1472	4 31 12,53		1 31 11,59		—	79 31 12,34		31 7,15		+	5,19	19,771	
1473	6 16 2,07		2 46 1,53		—	148 46 1,94		46 2,16		—	0,22	19,770	
1474		—	5 30 9,17		—	72 30 9,17		30 9,16		+	0,01	19,766	
1475		—	5 7 20,13		—	77 7 20,13		7 12,28		+	7,85	19,758	
1476		—	5 21 52,29		—	95 22 52,29		22 48,08		+	4,21	19,756	
1477		—	5 30 31,92		—	85 30 31,92		30 28,10		+	3,82	19,750	
1478		—	6 57 33,25		—	74 57 33,25		57 26,80		+	6,45	19,732	
1479		—	5 31 50,26		—	61 31 50,26		31 45,59		+	4,67	19,723	
1480		—	4 25 20,21		—	99 25 20,21		25 17,27		+	2,94	19,698	
1481		—	5 1 41,36		—	86 1 41,36		1 37,04		+	4,32	19,691	
1482		—	5 32 33,40		—	61 32 33,40		32 34,12		—	0,72	19,684	
1483	4 15 48,69		—		—	129 15 48,69		15 43,01		+	5,68	19,674	
1484		—	5 38 15,61		—	92 38 15,61		38 14,17		+	1,14	19,666	
1485	5 15 46,82		—		—	146 15 46,82		15 44,35		+	2,47	19,663	

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832			Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion		
			No. 1831	No. 1832	No. 1833	h. m. s.	s.	Green.			A. S.				
			s.	s.	s.			s.	s.	s.	s.	s.			
1486	5	35 Comæ Ber <i>q</i>	5	1,14	1	1,09	5	1,10	12 45	1,13		1,17	—0,04	+2,962	
1487	6	41 Virginis			5	23,72			12 45	23,73		23,41	+0,32	3,006	
1488	5.6	40 Virginis \downarrow			5	37,52			12 45	37,51	37,44	37,55	+0,07	—0,04	3,108
1489	3	77 Ursæ Maj. <i>ε</i>	4	36,94	1	36,97			12 46	36,95	36,92	36,24	+0,03	+0,71	2,655
1490	7	42 Virginis					1	41,30	12 46	41,30		40,74	+0,56	3,027	
1491	3.4	43 Virginis <i>δ</i>	5	8,64	5	8,78	2	8,59	12 47	8,69	8,59	8,38	+0,10	+0,31	3,004*
1492	2.3	12 Canum Ven <i>a</i>	4	9,60	1	9,83			12 48	9,65	9,58	9,11	+0,07	+0,54	2,841
1493	4.5	36 Comæ Ber <i>r</i>	6	36,67			10	36,75	12 50	36,73	36,77	36,31	—0,04	+0,42	2,971
1494	4	Muscoe <i>δ</i>	1	51,98	5	51,21			12 50	51,35		49,74	+1 61	3,902	
1495	6	44 Virginis <i>k</i> ¹	3	0,68	3	0,62	1	0,66	12 51	0,65		0,41	+0,24	3,083	
1496	6.7	46 Virginis <i>k</i> ³			6	57,30			12 51	57,30		56,91	+0,39	3,081	
1497	5	37 Comæ Ber	9	13,65			4	13,52	12 52	13,62		14,14	—0,52	2,882	
1498	6	38 Comæ Ber			5	50,82			12 52	50,83		50,39	+0,44	2,969	
1499	3.4	47 Virginis	7	49,06			7	48,83	12 53	48,95	49,01	48,78	—0,06	+0,17	3,003
1500	6	48 Virginis <i>k</i> ⁴	6	15,35	2	15,43			12 55	15,37		15,05	+0,32	3,083	
1501	5	Centauri <i>ξ</i> ³					5	8,86	12 57	8,79		9,93	—1,14	3,447	
1502	6.7	Virginis			6	35,83			12 57	35,82		35,67	+0,15	3,151	
1503	5	14 Canum Ven <i>f</i>							12 57			52,40		2,820	
1504	5	39 Comæ Ber <i>t</i>					6	9,62	12 58	9,65		9,55	+0,10	2,932	
1505	6	40 Comæ Ber					3	11,69	12 58	11,72		10,71	+1,01	2,922	
1506	5.6	49 Virginis <i>g</i>					2	6,32	12 59	6,31	6,37	6,39	—0,06	—0,08	3,127
1507	4	41 Comæ Ber <i>u</i>					4	6,59	12 59	6,62	6,83	6,17	—0,21	+0,45	2,883
1508	6	Comæ Ber					6	50,73	12 59	50,76		51,29	—0,53	2,881	
1509	4.5	1 Hydræ Con \downarrow	2	1,51			1	1,17	13 0	1,42	1,37	0,90	+0,05	+0,52	3,209
1510	6	50 Virginis					4	58,28	13 0	58,27		58,21	+0,06	3,126	
1511	4.5	51 Virginis <i>θ</i>	1	15,52			3	15,64	13 1	15,60	15,67	15,54	—0,07	+0,06	3,097
1512	5	Centauri <i>ω</i>					4	49,10	13 1	49,04		49,04	0,00	3,393	
1513	4.5	42 Comæ Ber <i>v</i>			3	48,78			13 1	48,79	48,95	48,48	—0,16	+0,31	2,950
1514	5	53 Virginis	7	8,00					13 3	8,00		7,40	+0,60	3,167	
1515	6	43 Comæ Ber <i>ω</i>			5	1,69			13 4	1,71		0,48	+1,23	2,787*	
1516	6	Virginis	4	11,44	2	11,25			13 4	11,38		11,27	+0,11	2,987	
1517	6	55 Virginis			6	12,59			13 5	12,57		12,40	+0,17	3,197	
1518	7	Virginis			5	24,21	2	24,36	13 5	24,25		24,17	+0,08	3,053	
1519	6	57 Virginis	2	54,68	4	54,64			13 6	54,65		54,15	+0,50	3,201	
1520	6	59 Virginis <i>e</i>					6	26,24	13 8	26,25		26,11	+0,14	2,997	
1521	6	58 Virginis			6	39,63			13 8	39,62		39,43	+0,19	3,135	
1522	6	60 Virginis <i>σ</i>			5	7,47			13 9	7,46		7,09	+0,37	3,024	
1523	4.5	61 Virginis	12	37,98			2	37,98	13 9	37,98	38,15	37,37	—0,17	+0,61	3,106*
1524	4.5	2 Hydræ Con <i>γ</i>	6	48,40			6	48,36	13 9	48,36	48,45	48,14	—0,09	+0,22	3,232
1525	5	20 Canum Ven <i>h</i>	5	60,00	1	59,97	3	59,80	13 9	59,94		59,40	+0,54	2,713	
1526	5	21 Canum Ven	4	4,89	1	5,33			13 11	4,98		4,69	+0,29	2,573	
1527	3	Centauri <i>i</i>			6	10,87	6	10,86	13 11	10,83	10,96	11,62	—0,13	—0,79	3,362
1528	7	62 Virginis			6	31,23			13 11	31,22		31,16	+0,06	3,143	
1529	6	64 Virginis <i>π</i>			6	41,77			13 13	41,78		41,46	+0,32	3,023	
1530	6	63 Virginis			5	2,09			13 14	2,08		1,57	+0,51	3,196	

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N P D January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precession	
	No. 1831	No. 1832	No. 1833				Green.	A. S. C.		
1486	2 50 20,10	3 50 21,95	—	67 50 21,21	—	50 21,46	—	0,25	+ 19,659	
1487	—	5 40 0,11	—	76 40 0,41	—	39 55,58	+	4,83	19,653	
1488	—	6 37 25,25	—	98 37 25,25	37 29 17	37 26,99	-3,92	1,74	19,649	
1489	5 7 36,10	—	—	33 7 36,10	7 36,53	7 39,47	-0,43	3,37	19,631	
1490	—	—	—	81 —	—	16 5,60	—	—	19,630	
1491	1 41 15,89	5 41 17,59	—	85 41 17,31	41 16,10	41 13,93	+1,21	3,38	19,622	
1492	9 46 22,80	—	—	50 46 22,80	46 22,44	46 21,21	+0,36	1,59	19,604	
1493	6 40 57,75	—	6 40 56,65	71 40 57,20	40 59,14	40 50,56	-1,94	6,64	19,558	
1494	5 38 24,10	—	—	160 38 24,10	—	38 21,47	+	2,63	19,554	
1495	—	5 54 10,55	—	92 54 10,55	—	54 9,07	+	1,48	19,550	
1496	—	5 28 45,18	—	92 28 45,18	—	27 42,97	+	2,21	19,532	
1497	5 19 20,92	—	—	58 19 20,92	—	18 26,59	+	0,33	19,526	
1498	—	5 58 6,79	—	71 58 6,79	—	58 4,28	+	2,51	19,514	
1499	4 8 7,16	2 8 6,54	7 8 6,62	78 8 6,78	8 8,96	8 5,77	-2,18	1,01	19,495	
1500	—	4 45 23,82	—	92 45 23,82	—	45 21,90	+	1,92	19,465	
1501	—	—	5 0 11,97	139 0 11,97	—	0 4,43	+	7,54	19,425	
1502	—	5 0 52,74	—	104 0 52,74	—	0 52,34	+	0,40	19,415	
1503	1 17 57,90	4 17 58,37	—	53 17 58,28	—	18 0,88	—	2,60	19,409	
1504	—	5 56 31,73	—	67 56 31,73	—	56 34,72	—	2,99	19,403	
1505	—	5 28 45,28	—	66 28 45,28	—	28 47,89	—	2,61	19,402	
1506	—	1 50 25,41	4 50 27,43	99 50 27,03	50 23,14	50 19,47	+3,89	7,56	19,382	
1507	1 28 18,02	6 28 16,26	9 28 17,42	61 28 17,04	28 17,10	28 16,51	-0,06	0,53	19,382	
1508	—	—	4 32 30,38	61 32 30,38	—	32 21,77	+	8,61	19,365	
1509	—	5 13 2,56	—	112 13 2,56	13 1,37	13 2,52	+1,19	0,04	19,362	
1510	—	—	5 25 52,46	99 25 52,46	—	25 58,62	—	6,16	19,340	
1511	—	4 38 24,85	—	94 38 24,85	38 23,99	58 22,75	+0,86	2,10	19,333	
1512	5 28 12,85	—	—	132 28 12,85	—	28 12,89	—	0,04	19,320	
1513	—	3 33 46,53	2 33 46,31	71 33 46,44	34 48,01	34 46,95	-1,57	0,51	19,320	
1514	3 17 27,80	2 17 27,16	—	105 17 27,54	—	17 19,61	+	7,93	19,290	
1515	—	3 16 2,86	—	61 16 2,86	—	16 0,82	+	2,04	18,428*	
1516	—	5 32 52,91	—	77 32 52,91	—	32 51,33	+	1,58	19,264	
1517	—	4 2 43,40	—	109 2 43,40	—	2 41,48	+	1,92	19,239	
1518	—	5 38 53,03	—	87 38 53,03	—	38 51,11	+	1,92	19,235	
1519	2 2 47,52	3 2 46,97	—	109 2 47,19	—	2 44,08	+	3,11	19,197	
1520	—	5 41 46,56	—	79 41 46,56	—	41 42,70	+	3,86	19,158	
1521	—	1 39 32,58	4 39 34,41	99 39 34,04	—	39 27,10	+	6,94	19,153	
1522	—	5 38 29,43	—	83 38 29,43	—	38 28,98	+	0,45	19,141	
1523	5 22 25,67	—	—	107 22 25,67	22 27,38	22 25,41	-1,71	0,26	20,208*	
1524	6 16 56,26	3 16 56,18	—	112 16 56,23	16 56,96	16 52,28	-0,73	3,95	19,123	
1525	2 32 27,11	3 32 23,86	—	48 32 25,16	—	32 23,65	+	1,51	19,117	
1526	4 25 58,91	1 25 54,87	—	39 25 58,11	—	25 59,43	—	1,32	19,089	
1527	—	5 49 25,99	—	125 49 25,99	—	49 19,47	+	6,52	19,086	
1528	—	1 25 9,64	4 25 10,27	100 25 10,15	—	25 2,56	+	7,59	19,077	
1529	—	1 57 38,18	4 57 41,24	83 57 40,63	—	57 39,15	+	1,48	19,018	
1530	—	5 51 9,97	—	106 51 9,97	—	51 5,85	+	4,12	19,009	

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832			Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831	No. 1832	No. 1833	h.	m.	s.			Green.	A. S.	
			s.	s.	s.				s.	s.	s.	s.	
1531	6	65 Virginis	4 37,07	1 37,04	—	13	14	37,06	—	37,25	—	—0,19	+ 3,098
1532	6	66 Virginis	—	6 49,08	—	13	15	49,07	—	48,71	—	+ 0,36	3,100
1533	1	67 Virginis α	15 21,29	9 21,32	40 21,19	13	16	21,25	21,14	21,00	+0,11	+ 0,25	3,147
1534	3	79 Ursæ Maj. ζ	9 8,79	—	4 8,32	13	17	8,67	8,62	7,33	+0,05	+ 1,34	2,419
1535	4	68 Virginis i	6 51,42	—	—	13	17	51,42	51,36	50,77	+0,06	+ 0,65	3,161
1536	5.6	69 Virginis P	3 30,37	3 30,32	—	13	18	30,34	—	29,95	—	+ 0,39	3,189
1537	5	80 Ursæ Maj. g	—	4 28,91	—	13	18	28,95	—	28,71	—	+ 0,24	2,407
1538	5.6	70 Virginis w	—	6 12,78	—	13	20	12,79	—	12,80	—	—0,01	2,948
1539	var.	Hydræ Con u	—	5 33,17	—	13	20	33,16	—	33,01	—	+ 0,15	3,257
1540	7	Virginis	2 38,04	5 38,04	1 38,12	13	20	38,06	—	37,79	—	+ 0,27	3,072
1541	6	71 Virginis β	—	1 53,47	9 53,74	13	20	53,73	—	53,46	—	+ 0,27	2,972
1542	4	Centauri d	8 20,12	—	2 20,01	13	21	20,09	—	20,04	—	+ 0,05	3,437
1543	6	73 Virginis	—	—	5 0,18	13	23	0,16	—	59,66	—	+ 0,50	3,220
1544	6	Centauri s	—	—	6 12,59	13	23	12,56	—	12,64	—	—0,08	3,327
1545	6	74 Virginis β	4 14,39	5 14,42	—	13	23	14,41	14,68	14,06	—0,27	+ 0,35	3,113
1546	6	75 Virginis	4 53,85	2 53,85	—	13	23	53,85	—	53,38	—	+ 0,47	3,191
1547	6	76 Virginis h	—	6 7,87	—	13	24	7,86	—	7,33	—	+ 0,53	3,146
1548	7	77 Virginis	—	1 38,46	7 38,65	13	24	38,62	—	38,34	—	+ 0,28	3,125
1549	6	78 Virginis	1 37,58	5 37,57	—	13	25	37,57	—	36,40	—	+ 1,17	3,029
1550	4	79 Virginis ζ	9 8,44	1 8,43	6 8,47	13	26	8,45	8,46	8,39	—0,01	+ 0,06	3,066
1551	6	80 Virginis β	6 47,40	1 47,47	4 47,38	13	26	47,40	—	47,16	—	+ 0,24	3,107
1552	6	Hydræ Con f	—	2 30,35	4 30,31	13	27	30,30	—	30,78	—	—0,48	3,307
1553	6	Centauri t	4 17,10	2 17,03	—	13	29	17,07	—	17,28	—	—0,21	3,345
1554	3	Centauri ϵ	5 17,97	—	3 18,22	13	29	18,03	—	18,64	—	+ 0,61	3,731
1555	6	1 Bootis	7 38,98	1 38,98	—	13	32	38,98	—	38,35	—	+ 0,63	2,868
1556	5.6	82 Virginis m	5 48,29	4 48,26	4 48,24	13	32	48,26	48,37	48,09	—0,11	+ 0,17	3,140
1557	6	2 Bootis	—	6 5,37	—	13	33	5,36	—	4,87	—	+ 0,49	2,840
1558	6	84 Virginis o	—	6 37,47	—	13	34	37,47	—	36,91	—	+ 0,56	3,027
1559	7	Virginis	—	5 10,31	—	13	35	10,31	—	10,20	—	+ 0,11	3,112
1560	6	83 Virginis	—	6 26,86	—	13	35	26,85	—	25,79	—	+ 1,06	3,216
1561	7	Virginis	1 8,69	1 8,94	5 9,17	13	36	9,05	—	8,90	—	+ 0,15	3,133
1562	5	1 Centauri i	9 10,11	—	—	13	36	10,11	—	10,85	—	—0,74	3,410
1563	6	Hydræ Con g	—	—	6 15,51	13	36	15,48	—	15,60	—	—0,12	3,325
1564	6	85 Virginis	—	—	6 33,13	13	36	33,11	—	32,62	—	+ 0,49	3,213
1565	6	86 Virginis O	—	6 59,96	—	13	36	59,96	—	59,57	—	+ 0,39	3,180
1566	7	Solitarii	—	—	3 4,43	13	38	4,41	—	4,09	—	+ 0,32	3,252
1567	6	87 Virginis	—	—	3 18,18	13	38	18,16	—	17,38	—	+ 0,78	3,238
1568	6	3 Bootis	—	—	—	13	38	—	—	54,82	—	—	2,789
1569	5	4 Bootis τ	6 16,70	2 16,85	—	13	39	16,82	—	16,30	—	+ 0,52	2,883
1570	4	Centauri ν	—	—	—	13	39	—	—	27,83	—	—	3,553
1571	7	88 Virginis	1 31,22	6 31,39	—	13	39	31,36	—	30,95	—	+ 0,41	3,127
1572	4	Centauri μ	5 32,09	—	—	13	39	32,09	—	32,11	—	—0,02	3,567
1573	5	2 Centauri g	3 44,42	3 44,40	—	13	39	44,40	—	44,32	—	+ 0,08	3,442
1574	5.6	89 Virginis x	—	6 45,45	—	13	40	45,44	—	45,19	—	+ 0,25	3,245
1575	2.3	85 Ursæ Maj. η	2 54,68	4 54,55	16 54,49	13	40	54,59	54,71	54,08	—0,12	+ 0,51	2,353*

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precessi- on.	
										Green.	A. S. C.		
	No.	1831	No.	1832	No.	1833							
1531	—	—	5	2 32,98	—	—	94 2 32,98	—	2 32,56	+	0,42	+18,992	
1532	—	—	5	16 58,82	—	—	94 16 58,82	—	16 56,66	+	2,16	18,959	
1533	21 16 58,21	—	14	16 56,55	41	16 57,59	100 16 57,57	16 53,96	16 51,02	+3,61	+	6,55	18,944
1534	7 11 43,28	—	—	—	—	—	34 11 43,28	11 42,34	11 41,00	+0,94	+	2,28	18,921
1535	4 49 51,55	—	2	49 49,08	—	—	101 49 50,73	49 50,32	49 50,75	+0,41	—	0,02	18,901
1536	—	—	5	6 2,69	—	—	105 6 2,69	—	5 54,77	+	7,92	18,882	
1537	—	—	5	8 5,29	—	—	34 8 5,29	—	8 6,02	—	0,73	18,881	
1538	—	—	—	—	5	19 19,56	75 19 19,56	—	19 12,90	+	6,66	19,360*	
1539	—	—	—	—	5	24 34,68	112 24 34,68	—	24 34,83	—	0,15	18,821	
1540	3 27 28,12	—	—	—	—	—	90 27 28,12	—	29 18,61	+	9,51	18,818	
1541	—	—	5	18 27,03	—	—	78 18 27,03	—	18 27,53	—	0,50	18,810	
1542	5 32 10,45	—	—	—	—	—	128 32 10,45	—	32 7,82	+	2,63	18,797	
1543	4 51 33,44	—	—	—	—	—	107 51 33,44	—	51 33,95	—	0,51	18,746	
1544	—	—	5	41 50,25	—	—	118 41 50,25	—	41 49,47	+	0,78	18,739	
1545	—	—	5	23 10,36	—	—	95 23 10,36	23 9,47	23 2,87	+0,89	+	7,49	18,739
1546	—	—	4	29 46,17	—	—	104 29 46,49	—	29 42,76	+	3,73	18,718	
1547	—	—	—	—	6	17 47,96	99 17 47,96	—	17 44,26	+	3,70	18,711	
1548	1 45 24,43	—	4	45 23,26	—	—	96 45 23,49	—	45 18,55	+	4,94	18,695	
1549	—	—	5	28 32,75	—	—	85 28 32,75	—	28 27,54	+	5,21	18,664	
1550	6 44 4,98	—	—	—	7	44 5,67	89 44 5,35	44 2,73	43 58,04	+2,62	+	7,31	18,647
1551	—	—	5	32 15,89	—	—	94 32 15,89	—	32 11,26	+	4,63	18,626	
1552	—	—	4	38 7,40	—	—	115 38 7,40	—	38 4,13	+	3,27	18,603	
1553	4 41 53,03	—	—	—	—	—	118 41 53,03	—	41 54,29	—	1,26	18,544	
1554	7 36 27,72	—	—	—	—	—	142 36 27,72	—	36 23,39	+	4,33	18,544	
1555	5 11 30,99	—	—	—	—	—	69 11 30,99	—	11 29,76	+	1,23	18,431	
1556	—	—	5	51 4,20	—	—	97 51 4,20	51 8,06	51 4,90	—3,86	—	0,70	18,425
1557	—	—	5	38 56,79	—	—	66 38 56,79	—	38 56,61	+	0,18	18,415	
1558	—	—	4	36 33,61	—	—	85 36 33,61	—	36 28,41	+	5,20	18,362	
1559	—	—	5	38 59,17	—	—	94 38 59,17	—	38 54,84	+	4,33	18,343	
1560	—	—	—	—	5	19 53,70	105 19 53,70	—	19 47,62	+	6,08	18,334	
1561	—	—	—	—	6	47 15,67	96 47 15,67	—	47 12,24	+	3,43	18,308	
1562	5 11 26,06	—	—	—	—	—	122 11 26,06	—	11 26,67	—	0,61	18,307	
1563	—	—	3	16 10,57	2	16 11,78	115 16 11,05	—	16 7,67	+	3,38	18,305	
1564	—	—	5	55 17,44	—	—	104 55 17,44	—	55 9,17	+	8,27	18,294	
1565	—	—	6	34 52,05	—	—	101 34 52,05	—	34 49,91	+	2,14	18,278	
1566	—	—	5	24 39,51	—	—	108 24 39,51	—	24 40,88	—	1,37	18,239	
1567	—	—	—	—	5	0 56,38	107 0 56,38	—	0 49,55	+	6,83	18,231	
1568	—	—	5	27 3,16	—	—	63 27 3,16	—	27 6,71	—	3,55	18,208	
1569	5 42 8,30	—	5	42 8,77	—	—	71 42 8,53	—	42 6,53	+	2,00	18,195	
1570	—	—	—	—	—	—	130	—	50 44,06	—	—	18,189	
1571	—	—	—	—	5	59 43,49	95 59 43,49	—	59 43,33	+	0,16	18,186	
1572	5 37 57,83	—	—	—	—	—	131 37 57,83	—	37 54,48	+	3,35	18,186	
1583	3 36 29,26	—	3	36 28,41	—	—	123 36 28,83	—	36 31,62	—	2,79	18,179	
1574	—	—	5	17 37,37	—	—	107 17 37,37	—	17 31,04	+	6,33	18,141	
1575	14 50 47,50	—	2	50 49,98	6	50 50,16	39 50 48,45	50 44,00	50 41,88	+4,45	+	6,57	18,134

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832		Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831	No. 1832	No. 1833	h. m. s.	s.			Green.	A. S.	
1576	7	Solitarii	—	2 1.34	4 1.41	13 41 1.36	—	—	1.24	—	+0.12	+3.276
1577	4	5 Bootis <i>v</i>	3 22.48	3 22.52	1 22.41	13 41 22.50	22.46	22.01	+0.04	+0.49	2.897	
1578	6	6 Bootis	—	—	6 45.98	13 41 46.01	—	46.18	—	-0.17	2.835	
1579	4.5	3 Centauri <i>k</i>	—	7 9.51	3 9.52	13 42 9.49	9.38	10.20	+0.11	-0.71	3.430	
1580	5	4 Centauri <i>h</i>	5 34.00	1 34.12	—	13 43 34.02	—	33.88	—	+0.14	3.419	
1581	6	Hydræ Con	—	5 47.55	—	13 44 47.64	—	47.75	—	-0.11	3.378	
1582	3	Centauri <i>ζ</i>	6 6.34	—	—	13 45 6.34	—	6.53	—	-0.19	3.690	
1583	6	7 Bootis	—	—	6 11.21	13 45 11.23	—	10.54	—	+0.69	2.867	
1584	6	90 Virginis <i>p</i>	2 5.17	5 4.93	—	13 46 5.00	—	5.00	—	0.00	3.075	
1585	7	Virginis	2 10.46	5 10.08	—	13 46 10.20	—	10.68	—	-0.48	3.144	
1586	4.5	10 Draconis <i>i</i>	5 31.41	1 31.42	—	13 46 31.42	31.36	30.23	+0.06	+1.19	1.751	
1587	3	8 Bootis <i>η</i>	6 41.25	1 41.18	9 41.21	13 46 41.24	41.35	40.90	-0.11	+0.34	2.859	
1588	5	Centauri <i>φ</i>	5 5.75	1 5.70	—	13 48 5.74	—	5.73	—	+0.01	3.600	
1589	5	Centauri <i>ψ</i> ¹	—	5 20.71	—	13 48 20.68	—	20.92	—	-0.24	3.654	
1590	5	9 Bootis <i>ι</i>	2 53.90	4 53.19	—	13 48 53.84	—	53.62	—	+0.22	2.739	
1591	6	3 Hydræ Con <i>δ</i> ¹	—	—	5 6.71	13 49 6.68	—	5.76	—	+0.92	3.342	
1592	6	4 Hydræ Con <i>δ</i> ²	—	—	6 36.73	13 50 36.70	—	36.88	—	-0.18	3.346	
1593	7	Virginis	—	6 7.49	—	13 51 7.49	—	7.45	—	+0.04	3.098	
1594	7	Virginis	—	5 14.14	—	13 51 14.13	—	13.70	—	+0.43	3.148	
1595	5	Centauri <i>ψ</i> ²	6 17.32	—	—	13 51 17.32	—	17.32	—	0.00	3.686	
1596	1	Centauri <i>β</i>	5 2.70	—	4 2.92	13 52 2.75	—	3.71	—	-0.96	4.134	
1597	5.6	Hydræ Con <i>h</i>	—	6 50.93	—	13 52 50.91	—	50.86	—	+0.05	3.384	
1598	4.5	93 Virginis <i>τ</i>	6 6.29	1 6.14	1 6.28	13 53 6.28	6.18	6.07	+0.10	+0.21	3.042	
1599	6	11 Bootis	—	2 33.15	4 33.18	13 53 33.20	—	32.23	—	+0.97	2.728	
1600	6.7	Virginis	3 22.31	2 22.14	—	13 55 22.21	—	21.95	—	+0.29	3.230	
1601	7	Virginis	2 28.21	6 28.38	—	13 55 28.38	—	28.19	—	+0.14	3.164	
1602	5	Centauri <i>α</i>	6 49.55	—	4 49.65	13 55 49.57	—	49.13	—	+0.44	3.617	
1603	4.5	5 Hydræ Con <i>π</i>	5 49.55	1 49.52	4 49.64	13 56 49.57	49.55	49.41	+0.02	+0.16	3.384	
1604	2	5 Centauri <i>θ</i>	4 49.51	3 49.51	3 49.89	13 56 49.60	49.47	50.07	+0.13	-0.47	3.491*	
1605	6	94 Virginis	—	3 24.74	2 24.51	13 57 24.64	—	24.38	—	+0.26	3.161	
1606	6	95 Virginis	—	6 50.43	—	13 57 50.42	—	50.02	—	+0.40	3.166	
1607	3.4	11 Draconis <i>α</i>	4 50.61	2 50.91	7 50.06	13 59 50.47	50.72	49.82	-0.25	+0.65	1.625	
1608	6.7	96 Virginis <i>γ</i>	1 4.60	6 4.23	—	14 0 4.27	—	3.85	—	+0.42	3.180	
1609	5	Octantis <i>δ</i>	—	—	—	14 0 Invisible	—	59.86	—	—	8.140	
1610	6	Virginis	3 40.82	3 40.90	—	14 1 40.85	—	40.22	—	+0.63	3.255	
1611	5.6	12 Bootis <i>d</i>	—	4 44.16	2 44.16	14 2 44.18	—	43.96	—	+0.22	2.737	
1612	5	6 Hydræ Con	8 9.92	—	—	14 3 9.92	—	9.85	—	+0.07	3.408	
1613	7	97 Virginis	1 36.92	6 37.13	—	14 3 37.09	—	36.49	—	+0.60	3.178	
1614	6	Virginis	—	5 46.14	—	14 3 46.15	—	45.98	—	+0.17	3.029	
1615	4	98 Virginis <i>α</i>	8 56.76	1 56.68	3 56.74	14 3 56.75	56.79	56.73	-0.04	+0.02	3.183	
1616	6	14 Bootis <i>q</i>	—	—	5 0.51	14 6 0.53	—	0.24	—	+0.29	2.897	
1617	6	Virginis	—	2 9.66	2 9.57	14 6 9.59	—	9.14	—	+0.45	3.287	
1618	6	15 Bootis <i>v</i>	—	2 37.29	3 37.79	14 6 37.60	—	37.32	—	+0.28	2.933	
1619	4	99 Virginis <i>i</i>	3 13.04	2 13.06	—	14 7 13.04	12.98	12.83	+0.06	+0.21	3.132	
1620	1	16 Bootis <i>α</i>	9 0.03	9 0.03	13 0.03	14 8 0.04	0.10	59.75	-0.06	+0.29	2.731*	

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precession			
	No.	1831	No.				1832	No.		1833	Green.	A. S. C.
1576					5 1 56,56	110 1 56,56		1 50,94				
1577	5 21	54,57				73 21 54,57	21 55,77	21 51,22	-1,20	+	5,62	+ 18,131
1578			5 53	44,01		67 53 44,01		53 53,75		-	3,35	18,118
1579	4 9	27,74	1 9	26,94		122 9 27,58	9 22,80	9 23,87	+4,78	+	9,74	18,102
1580			5 5	38,66		121 5 38,66		5 33,97		+	3,71	18,088
										+	4,69	18,035
1581					3 44	6,38	117 44 6,38	44 6,13		+	0,25	17,988
1582			4 27	26,69		136 27 26,69		27 20,34		+	6,35	17,976
1583					5 14	8,40	71 14 8,40	14 8,39		+	0,01	17,973
1584			5 40	22,92		90 40 22,92		40 20,32		+	2,60	17,938
1585			5 13	42,73		97 13 42,73		13 41,25		+	1,48	17,934
1586	3 26	45,42	3 26	42,62		24 26 44,02	26 41,29	26 44,69	+2,73	-	0,67	17,919
1587	5 45	26,36			5 45	25,47	45 24,10	45 21,94	+1,81	+	3,97	17,914
1588	4 16	33,38	2 16	34,45		131 16 33,73		16 27,90		+	5,83	17,859
1589	4 58	45,28	1 58	46,06		133 58 45,43		58 36,30		+	9,13	17,849
1590			5 40	53,06		61 40 53,06		40 51,15		+	1,91	17,826
1591			5 8	52,11		114 8 52,11		8 49,57		+	2,54	17,819
1592					6 11	9,98	114 11 9,98	11 7,18		+	2,80	17,758
1593					5 43	37,88	92 43 37,88	43 36,05		+	1,83	17,737
1594			2 20	23,98	3 20	26,94	97 20 25,76	20 22,73		+	3,03	17,732
1595	5 47	10,07				134 47 10,07		47 4,04		+	6,03	17,731
1596	7 33	26,79				149 33 26,79		33 20,66		+	6,13	17,700
1597			6 36	51,12		116 36 51,12		36 48,40		+	2,72	17,666
1598	2 38	18,09	3 38	19,80	5 38	19,94	87 38 19,51	38 20,11	-0,60	+	1,14	17,655
1599			5 47	52,98		61 47 52,98		47 54,59		-	1,61	17,637
1600			4 9	35,37	1 9	35,68	104 9 35,43	9 34,21		+	1,22	17,561
1601					5 26	47,14	98 26 47,14	26 45,84		+	1,30	17,557
1602	5 22	14,68				130 22 14,68		22 6,54		+	8,14	17,542
1603	5 52	8,76				115 52 8,76	52 5,23	52 6,33	+3,53	+	2,43	17,499
1604	5 32	24,13				125 32 24,13		32 21,94		+	2,19	17,499
1605					5 5	6,74	98 5 6,74	5 5,53		+	1,21	17,474
1606			5 30	26,53		98 30 26,53		30 23,63		+	2,90	17,456
1607	5 49	15,29			1 49	12,22	24 49 14,79	49 8,91	+5,39	+	5,88	17,367
1608			5 32	5,98		99 32 5,98		32 2,55		+	3,43	17,359
1609						172 Invisible		52 58,81		-		17,326
1610			2 30	15,65	4 30	17,52	105 30 16,90	30 12,86		+	4,04	17,289
1611			4 6	31,73		64 6 31,73		6 29,81		+	1,92	17,241
1612	4 27	59,17	2 27	57,77		116 27 58,74		27 53,73		+	5,01	17,223
1613					5 6	20,59	99 6 20,59	6 20,01		+	0,58	17,202
1614			4 47	43,97		86 47 43,97		47 42,39		+	1,58	17,195
1615	4 29	18,22				99 29 18,22		29 20,70		-	2,48	17,187
1616			4 14	55,86		76 14 55,86		14 54,82		+	1,04	17,093
1617			5 24	44,94		107 24 44,94		24 44,14		+	0,80	17,087
1618			3 6	15,64	2 6	16,99	79 6 16,18	6 11,69		+	4,49	17,065
1619	5 11	46,43				95 11 46,43	11 40,62	11 37,21	+5,81	+	9,22	17,038
1620	14 56	24,59	12 56	26,36	44 56	26,92	69 56 26,36	56 21,62	+4,74	+	7,63	18,962*

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. Green ^h January 1, 1832			A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831	No. 1832	No. 1833	h.	m.	s.		Green.	A. S.	
1621	6	Bootis			6 10,33	14	8	10,35		9,94	+0,41	+2,814
1622	4.5	Lupi	6 41,45	1 41,26		14	8	41,42		40,94	+0,48	3,786
1623	4	19 Bootis	1 59,57	4 59,71		14	9	59,70	59,51	59,03	-0,19	+0,67
1624	4	100 Virginis	5 2,07	3 2,05		14	10	2,06	2 23	1,72	-0,17	+0,54
1625	4.5	21 Bootis		6 12,73	2 12,58	14	10	12,76	12,72	12,28	+0,04	+0,48
1626	6	102 Virginis		5 53,55		14	10	53,55		53,59	-0,04	3,087
1627	6	18 Bootis				14	11			8,01		2,891
1628	6	20 Bootis			4 48,25	14	11	48,27		47,78	+0,49	2,845
1629	6	103 Virginis			6 19,51	14	13	19,51		19,33	+0,18	3,083
1630	6	7 HydræCon		6 26,37		14	13	26,36		25,90	+0,46	3,442
1631	6	2 Libræ	1 24,12	3 23,91	2 23,90	14	14	23,94		23,06	+0,88	3,211
1632	6	Bootis		1 7,19	4 7,28	14	15	7,27		6,99	+0,28	2,947
1633	6	Solitarii				14	15			14,53		3,399
1634	5	1 Lupi	6 23,69			14	15	23,69		23,42	+0,27	3,797
1635	5	2 Lupi	5 25,26			14	15	25,26		24,77	+0,49	3,802
1636	5.6	Bootis		6 50,04		14	15	50,05		50,17	-0,12	2,982
1637	5.6	8 Hydræ Con		6 21,67		14	18	21,65		21,48	+0,17	3,483
1638	6.7	104 Virginis N ¹		5 35,92		14	18	35,91		35,37	+0,54	3,139
1639	4	23 Bootis	6 28,64		8 28,77	14	19	28,77	28,52	27,74	+0,25	+1,03
1640	5	105 Virginis	8 33,35		4 33,50	14	19	33,40		33,06	+0,34	3,088
1641	6	106 Virginis N ²		5 50,61		14	19	50,60		50,26	+0,34	3,150
1642	5	Lupi	5 21,17		1 21,44	14	21	21,20		21,68	-0,48	3,979
1643	4	25 Bootis	6 35,35			14	24	35,35	35,34	35,29	+0,01	+0,06
1644	3	Centauri	4 52,49	2 52,72		14	24	52,57		52,53	+0,04	3,764
1645	6	26 Bootis			5 54,41	14	24	54,44		53,73	+0,71	2,733
1646	3.4	27 Bootis		6 18,79	2 18,74	14	25	18,80	18,72	18,59	+0,08	+0,21
1647	7	Solitarii		2 24,46	3 24,41	14	25	24,42		24,15	+0,27	3,351
1648	5	Lupi	6 38,14			14	26	38,14		39,17	-1,03	3,975
1649	4.5	Apodis				14	27	Invisible		26,03		6,937
1650	5	28 Bootis	4 21,81	2 21,61		14	27	21,75		21,36	+0,39	2,597
1651	6.7	Libræ			3 4,52	14	28	4,51		6,06	-1,55	3,233
1652	4	5 Ursæ Min	1 58,45	4 58,65		14	27	58,73	58,78	59,43	-0,05	-0,70
1653	4	Centauri		4 14,54		14	28	14,48		20,70	-6,22	+4,470
1654	1	Centauri	3 16,25			14	28	16,25		22,60	-6,35	4,470
1655	4	Circini			3 2,74	14	29	2,74		4,71	-1,97	4,742
1656	7	3 Libræ			3 41,33	14	29	41,30		40,90	+0,40	3,434
1657	3	Lupi	6 48,10			14	30	48,10		48,65	-0,55	3,933
1658	6	Bootis			5 40,57	14	32	40,59		40,39	+0,20	2,858
1659	3.4	29 Bootis	6 49,89			14	32	49,89	49,94	49,24	-0,05	+0,65
1660	3.4	30 Bootis	5 7,75	1 7,95	1 7,78	14	33	7,78	7,74	7,18	+0,04	+0,60
1661	5	Centauri	5 24,57	1 24,91		14	33	24,62		24,88	-0,26	3,636
1662	5	31 Bootis		6 24,08		14	33	24,09		23,90	+0,19	2,938
1663	7	4 Libræ		4 31,96		14	33	31,94		31,95	-0,01	3,442
1664	6	32 Bootis			2 39,79	14	33	39,80		39,68	+0,12	2,886
1665	4.5	107 Virginis	2 13,02	3 13,14	1 13,05	14	34	13,08	13,02	12,89	+0,06	+0,19

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from			Annual Precessi- on.
	No.	1831	No.	1832	No.	1833				Green.	A.	S. C	
1621					2 18	10,14	70 18 10,14		18 5,48		+	4,66	+16,994
1622	4 16	43,08					135 16 43,08		16 34,43		+	8,65	16,971
1623	4 8	14,28	1 8	12,47			43 8 14,00	8 14,73	8 13,34	-0,73	+	0,66	16,908
1624	1 35	34,43	5 35	34,08			102 35 34,14	35 36,66	35 33,16	-2,52	+	0,98	16,907
1625			3 51	17,69	1 51	17,49	37 51 17,64	51 18,57	51 18,58	-0,93	-	0,94	16,897
1626					3 29	5,22	91 29 5,22		29 2,52		+	2,70	16,867
1627					1 12	54,77	76 12 54,77		12 53,27		+	1,50	16,855
1628			5 55	6,26			72 55 6,26		55 7,12		-	0,86	16,823
1629			5 12	56,68			91 12 56,68		12 55,77		+	0,91	16,751
1630					5 58	28,10	116 58 28,10		58 44,36		-	16,26	16,746
1631			5 56	33,63			100 56 33,63		56 29,91		+	3,72	16,700
1632					4 47	6,53	80 47 6,53		47 4,16		+	2,37	16,664
1633			4 2	20,09	1 2	19,94	114 2 20,06		2 18,35		+	1,71	16,659
1634	5 27	22,45					134 27 22,45		27 15,98		+	6,47	16,652
1635	4 36	55,17	3 36	57,37			134 36 56,11		36 49,25		+	6,86	16,651
1636			5 24	46,11			83 24 46,11		24 46,95		-	0,84	16,629
1637			5 43	52,40			118 43 52,40		43 52,96		-	0,56	16,506
1638			2 21	34,56	3 21	33,26	95 21 33,78		21 24,56		+	9,22	16,494
1639	5 22	13,10			4 22	11,95	37 22 12,59	22 12,17	22 13,40	+0,42	-	0,81	16,988*
1640			5 28	12,64			91 28 12,64		28 13,02		-	0,38	16,446
1641			5 8	29,17			96 8 29,17		8 23,42		+	5,75	16,431
1642	4 42	24,57					139 42 24,57		42 16,93		+	7,64	16,356
1643	5 53	14,75			6 53	15,35	58 53 15,08	53 14,57	53 15,49	+0,51	-	0,41	16,189
1644			5 24	51,02			131 24 51,02		24 48,12		+	2,90	16,176
1645			1 58	45,34	4 58	45,48	66 58 45,41		59 46,41		-	1,00	16,173
1646	4 57	12,85	3 57	13,01	1 57	11,97	50 57 12,80	57 12,86	57 9,94	-0,06	+	2,86	16,151
1647			5 41	53,35			109 41 53,35		41 49,08		+	4,27	16,148
1648					5 41	12,91	138 41 12,91		41 13,88		-	0,92	16,084
1649							168 Invisible		19 8,64				16,049
1650	5 31	19,44					59 31 19,44		31 15,73		+	3,71	16,045
1651					5 35	8,67	101 35 8,67		35 21,03		-	12,36	16,007
1652			3 33	24,31	2 33	22,03	13 33 23,40	33 26,10	33 27,36	-2,70	-	3,96	16,007
1653			4 7	26,79			150 7 26,79		8 28,11		-	1,32	15,996
1654	3 8	8,88	5 8	8,27	1 8	8,16	150 8 8,50		8 3,11		+	5,39	15,995
1655					5 14	10,29	154 14 10,29		13 48,08		+	22,21	15,958
1656			5 17	45,12			144 17 45,12		17 44,42		+	0,65	15,924
1657			5 39	38,91			136 39 38,91		39 37,67		+	1,24	15,865
1658			2 44	22,25	3 44	23,61	75 44 23,06		44 17,10		+	5,96	15,763
1659			4 51	24,36	1 51	23,91	72 51 24,27	51 25,45	51 24,57	-1,18	+	0,30	15,755
1660	5 32	49,63			5 32	49,52	75 32 49,57	32 48,21	32 42,81	+1,36	+	6,76	15,738
1661	5 26	43,09					124 26 43,09		26 31,17		+	11,52	15,724
1662	1 6	55,18			4 6	54,57	81 6 54,69		6 52,45		+	2,24	15,724
1663					5 16	35,29	114 16 35,29		16 32,93		+	2,33	15,717
1664							77 36		36 38,38				15,709
1665			5 55	28,34			94 55 28,34	55 22,71	55 49,97	+5,63	-	21,63	15,680

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832		Green ^h Catal.	A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831		No. 1832		No. 1833						Green.	A. S.	
				s.		s.		s.	h. m.	s.					
1666	4.5	34 Bootis	1	2,32	4	2,37			14 36	2 37	2,41	1,77	-0,04	+0,60	+2,635
1667	5.6	10 Hydræ Con					5	17,99	14 36	17,96		17,61		+0,35	3,455
1668	7	Libræ					4	40,42	14 36	40,40		40,03		+0,37	3,383
1669	6	5 Libræ	p	1 42,91			4	42,77	14 36	42,78		42,70		+0,08	3,290
1670	4.5	35 Bootis	o	2 24,35	5	24,30			14 37	24,32	24,33	23,83	-0,01	+0,49	2,798
1671	5.6	11 Hydræ Con							14 37			36,85			3,462
1672	3	36 Bootis	e	6 39,00			1	38,98	14 37	39,00	38,97	38,52	+0,03	+0,48	2,621
1673	7	Libræ							14 37			41,36			3,387
1674	4	109 Virginis	z		5	45,83			14 37	45,84	45,77	45,27	+0,07	+0,57	3,029
1675	5.6	12 Hydræ Con			1	57,50			14 37	57,48		56,30		+1,18	3,471
1676	6	13 Hydræ Con							14 38			9,00			3,481
1677	5.6	7 Libræ	u		5	7,44			14 40	7,43	7,40	7,17	+0,03	+0,26	3,273
1678	5	6 Libræ		5 26,64	1	27,00			14 40	26,70		26,41		+0,29	3,511
1679	5	Lupi	o	6 42,88					14 40	42,88		42,39		+0,49	3,868
1680	6	8 Libræ	u ¹		5	24,52			14 41	24,50	24,45	24,39	+0,05	+0,11	3,304
1681	3	9 Libræ	u ²	4 35,86	2	35,99	17	36,01	14 41	35,97	35,92	35,91	+0,05	+0,06	3,305
1682	6	Libræ					3	11,96	14 42	11,94		11,64		+0,30	3,335
1683	6	11 Libræ	d				4	18,74	14 42	18 74		18,62		+0,12	3,092
1684	7	10 Libræ	e				5	26,81	14 42	26,79		26,00		+0,79	3,345
1685	6	Bootis					3	44,43	14 42	44,47		43,97		+0,50	2,579
1686	3.4	37 Bootis	z	6 38,51					14 43	38,51	38,59	38,22	-0,08	+0,29	2,753
1687	6	12 Libræ			6	35,76			14 44	35,74		35,77		-0,03	3,458
1688	6	13 Libræ	z ¹	1 16,25					14 45	16,25		15,96		+0,29	3,243
1689	3.4	Lupi	β	6 33,97					14 47	33,97		34,00		-0,03	3,883
1690	6	Libræ					5	40,69	14 47			37,96			3,404
1691	5	15 Libræ	z ²	4 40,01	3	39,90	2	39,99	14 47	39,96	39,96	39,08	0,00	+0,88	3,237
1692	7	14 Libræ					5	43,39	14 47	43,36		43,25		+0,11	3,479
1693	3	Centauri	κ	5 16,17					14 48	16,17		16,12		+0,05	3,857
1694	5.6	16 Libræ	c		5	25,26			14 48	25,26		25,24		+0,02	3,125
1695	6	15 Hydræ Con	z				1	44 20	14 48	41,17		43,83		+0,34	3,524
1696	6	1 Serpentis							14 48			56,44			3,060
1697	7	17 Libræ		1 7,93	5	7,81			14 49	7,83		7,80		+0,03	3,234
1698	6	Bootis							14 49			21,50			2,792
1699	7	18 Libræ			5	49,23			14 49	49,22	49,18	48,98	-0,04	+0,24	3,234
1700	3	7 Ursæ Min.	β	2 17,28	4	17,12	10	15,70	14 51	16,46	16,73	16,73	-0,27	-0,27	-0,286
1701	4.5	19 Libræ	δ	6 0,54					14 52	0,54	0,47	0,21	+0,07	+0,33	+3,193
1702	7	Libræ			2	12,64	4	12,66	14 53	12,65		12,47		+0,18	3,179
1703	7	Libræ					3	33,87	14 53	33,86		33,85		+0,01	3,183
1704	5	Lupi	π	4 43,43	1	43,15			14 53	43,37		43,32		+0,05	4,031
1705	3.4	20 Libræ	γ	5 15,49	1	15,53	1	15,50	14 54	15,49	15,48	15,13	+0,01	+0,36	3,490
1706	5	110 Virginis		2 25,08	1	25,23			14 54	25,13		24,98		+0,15	3,024
1707	5.6	41 Bootis	ω						14 54			44,31			2,624
1708	3	42 Bootis	β	1 37,05	4	37,36	2	36,86	14 55	37,21	37,11	36,74	+0,10	+0,47	2,261
1709	7	Libræ							14 56			27,60			3,456
1710	5	43 Bootis	↓	5 14,90					14 57	14,90		14,25		+0,65	2,580

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precession			
	No.	1831	No.				1832	No.		1833	Green.	A. S. C.
1666	4 45	14,91	4 45	12,70	—	62 45 13,80	45 14,41	45 12,31	—0,61 + 1,49 + 15,579			
1667	—	—	—	—	—	114 —	—	43 24,99	— 15,566			
1668	—	—	—	—	—	110 —	—	27 25,29	— 15,545			
1669	—	—	—	—	—	104 —	—	44 44,28	— 15,543			
1670	—	—	4 19	10,15	1 19	12,95	72 19 10,71	19 11,95	19 10,73 —1,24 — 0,02 15,504			
1671	—	—	—	—	5 54	52,16	114 54 52,16	54 47,52	— + 4,64 15,493			
1672	—	—	1 12	48,60	4 12	48,07	62 12 48,18	12 48,31	12 48,39 —0,13 — 0,21 15,490			
1673	—	—	5 36	54,26	—	—	110 36 54,26	36 51,59	— + 2,67 15,489			
1674	—	—	—	—	4 23	38,47	87 23 38,47	23 42,11	23 35,73 —3,64 + 2,74 15,485			
1675	—	—	—	—	1 22	43,97	115 22 43,97	22 40,83	— + 3,14 15,475			
1676	—	—	—	—	—	—	115 55 —	56 9,78	— — — 15,463			
1677	—	—	1 26	34,20	2 26	34,50	103 26 34,40	26 37,36	26 35,76 —2,96 — 1,36 15,353			
1678	3 45	17,39	3 15	17,92	—	—	117 15 17,65	15 15,45	— + 2,20 15,335			
1679	4 52	25,58	—	—	—	—	132 52 25,58	52 20,43	— + 5,15 15,321			
1680	—	—	—	—	—	—	105 20 —	17 36,13	17 33,46 — 15,280			
1681	8 20	20,38	6 20	23,44	13 20	23,65	105 20 22,64	20 18,23	20 14,27 + 4,41 + 8,37 15,270			
1682	—	—	—	—	5 5	10,08	107 5 10,08	5 3,99	— + 6,09 15,236			
1683	—	—	—	—	5 35	38,90	91 35 38,90	35 36,07	— + 2,83 15,229			
1684	—	—	—	—	1 39	26,55	107 39 26,55	39 21,52	— + 5,03 15,222			
1685	—	—	—	—	—	—	60 4 —	41 3,36	— — 15,204			
1686	—	—	5 11	55,39	—	—	70 11 55,39	11 54,04	11 51,96 + 1,35 + 3,43 15,152			
1687	—	—	5 56	56,11	—	—	113 56 56,11	56 57,35	— — 1,22 15,099			
1688	—	—	4 12	29,17	—	—	101 12 29,17	12 20,99	— + 8,18 15,060			
1689	7 27	1,72	—	—	—	—	132 27 1,72	26 57,40	— + 4,32 14,927			
1690	—	—	—	—	5 39	9,98	110 39 9,98	38 11,05	— + 58,93 14,923			
1691	5 43	36,88	—	—	—	—	100 43 36,88	43 35,98	43 31,85 + 0,90 + 5,03 14,921			
1692	—	—	—	—	5 45	35,77	114 45 35,77	45 30,42	— + 5,35 14,918			
1693	5 25	25,73	—	—	—	—	131 25 25,73	25 25,08	— + 0,65 14,886			
1694	—	—	—	—	3 39	22,21	93 39 22,21	39 18,83	— + 3,38 14,876			
1695	—	—	—	—	—	—	116 58 —	58 34,94	— — 14,859			
1696	—	—	—	—	—	—	89 29 —	29 3,63	— — — 14,845			
1697	—	—	5 28	31,64	—	—	100 28 31,64	28 25,91	— + 5,73 14,835			
1698	—	—	—	—	1 55	46,91	72 55 46,91	55 48,71	— — 1,80 14,820			
1699	—	—	5 27	48,77	—	—	100 27 48,77	27 48,27	27 47,55 + 0,50 + 1,22 14,794			
1700	—	—	3 9	31,71	11 9	36,87	15 9 35,76	9 27,90	9 33,53 + 7,86 + 2,23 14,701			
1701	—	—	1 50	46,30	4 50	46,25	97 50 46,26	50 50,56	50 46,27 —4,30 — 0,01 14,664			
1702	—	—	—	—	2 54	26,78	96 54 26,78	54 20,11	— + 6,67 14,592			
1703	—	—	—	—	—	—	97 10 —	10 19,73	— — — 14,571			
1704	5 23	13,76	—	—	3 23	12,59	136 23 13,32	23 7,87	— + 5,45 14,563			
1705	5 36	58,96	—	—	—	—	114 36 58,96	36 55,98	36 51,84 + 2,98 + 7,12 14,530			
1706	1 14	38,25	4 14	37,71	—	—	87 14 37,81	14 36,45	— + 1,36 14,519			
1707	—	—	—	—	2	—	64 19 26,09	19 21,23	— + 4,86 14,499			
1708	5 56	33,45	1 56	32,79	—	—	48 56 33,34	56 35,03	56 33,89 —1,69 — 0,55 14,446			
1709	—	—	—	—	3	—	112 39 48,06	39 46,49	— + 1,57 14,396			
1710	—	—	6 23	25,89	—	—	62 23 25,89	23 32,55	— — 6,66 14,347			

lxxviii *Comparison of the Observed Places of the Principal Fixed Stars*

No.	Mag	Names.		Mean A. R. January 1, 1832, from Observations in			Mean A. R. Green ^b January 1, 1832			A. S. Catal.	Difference from		Annual Preces- sion	
				No. 1831	No. 1832	No. 1833	h.	m.	s.		s.	s.		A. S.
				s.	s.	s.				s.	s.		s.	
1711	6	21 Libræ	γ^1	1 16,30	4 16,18	2 16,11	14	57	16,17	16,24	15,79	-0,07	+ 0,38	+ 3,328
1712	6.7	22 Libræ	γ^2	—	—	5 27,30	14	57	27,28	—	26,51	—	+ 0,77	3,333
1713	5	Lupi	λ	1 33,92	—	—	14	57	33,92	—	34,05	—	-0,13	3,990
1714	5	44 Bootis	i	—	2 15,28	1 15,20	14	58	15,25	—	13,87	—	+ 1,38	1,955*
1715	5	45 Bootis	c	7 55,48	1 55,46	—	14	59	55,48	—	54,71	—	+ 0,77	2,617
1716	6	Solitarii	—	—	—	2 4,59	15	0	4,56	—	4,22	—	+ 0,34	3,475
1717	4	Lupi	ζ	4 15,60	1 15,93	—	15	0	15,66	—	16,85	—	-1,19	4,254
1718	5	Lupi	π	—	—	—	15	0	—	—	18,06	—	—	4,121
1719	6	46 Bootis	b	—	—	—	15	1	—	—	8,36	—	—	2,585
1720	6	Bootis	—	—	—	—	15	1	—	—	16,22	—	—	2,610
1721	5.6	24 Libræ	γ^1	1 39,45	5 39,69	—	15	2	39,64	39,61	39,74	0,00	-0,10	3,400
1722	3	Triang Aus	γ	—	1 22,50	4 22,31	15	3	22,20	—	21,93	—	+ 0,27	5,444
1723	6.7	25 Libræ	γ^2	—	—	4 46,01	15	3	45,99	—	45,81	—	+ 0,18	3,399
1724	5	Circini	β	6 26,02	—	—	15	4	26,02	—	27,20	—	-1,18	4,618
1725	7	26 Libræ	π	—	2 5,75	—	15	5	5,74	—	5,66	—	+ 0,08	3,365
1726	6.7	Scorpii	—	—	—	1 39,88	15	6	39,86	—	39,60	—	+ 0,26	3,456
1727	6	3 Serpentis	—	—	—	—	15	6	—	—	50,67	—	—	2,973
1728	5	Lupi	μ	4 53,61	1 53,58	—	15	6	53,60	—	54,06	—	-0,46	4,119
1729	6	4 Serpentis	—	—	—	4 16,25	15	7	16,25	—	15,29	—	+ 0,96	3,051
1730	5	48 Bootis	α	6 27,90	1 27,84	—	15	7	27,89	—	27,50	—	+ 0,39	2,510
1731	4.5	2 Lupi	f	—	5 38,09	—	15	7	38,07	37,94	37,73	+ 0,13	+ 0,34	3,620
1732	2.3	27 Libræ	β	2 58,72	1 58,52	—	15	7	58,65	58,71	58,43	-0,06	+ 0,22	3,218
1733	3.4	49 Bootis	δ	1 44,07	2 43,83	1 43,50	15	8	43,83	43,90	43,39	-0,07	+ 0,44	2,408
1734	5	Lupi	δ	—	—	3 22,67	15	10	22,62	—	22,64	—	-0,02	3,896
1735	5	Lupi	ν	—	—	2 29,12	15	10	29,05	—	28,85	—	+ 0,20	4,137
1736	5.6	5 Serpentis	—	—	—	—	15	10	—	—	43,65	—	—	3,026
1737	6	Bootis	—	—	—	—	15	10	—	—	52,56	—	—	2,685
1738	5	Lupi	Φ^1	2 10,33	—	1 10,61	15	11	10,40	—	10,34	—	+ 0,06	3,777
1739	4.5	Lupi	ϵ	—	3 18,06	1 18,08	15	11	18,03	—	18,52	—	-0,49	4,026
1740	6	28 Libræ	ν	—	2 22,99	—	15	11	22,98	—	22,99	—	-0,01	3,381
1741	7	29 Libræ	Φ^1	—	—	2 40,52	15	11	40,50	—	38,70	—	+ 1,80	3,332
1742	5	Lupi	Φ^2	6 27,12	—	—	15	12	27,12	—	27,16	—	-0,04	3,797
1743	6	6 Serpentis	—	—	—	—	15	12	—	—	27,92	—	—	3,045
1744	6	30 Libræ	Φ^2	—	—	—	15	13	—	—	40,31	—	—	3,327
1745	6	7 Serpentis	—	—	—	5 26,13	15	14	26,15	—	25,74	—	+ 0,41	2,833
1746	6	Libræ	—	1 39,65	3 39,95	1 39,96	15	14	39,89	—	39,69	—	+ 0,20	3,277
1747	5.6	31 Libræ	ϵ	—	6 6,21	—	15	15	6,21	—	6,00	—	+ 0,21	3,240
1748	5.6	9 Serpentis	—	—	—	5 0,16	15	18	0,18	—	59,67	—	+ 0,51	2,776
1749	4	51 Bootis	μ	8 8,65	—	—	15	18	8,65	8,78	8,21	-0,13	+ 0,44	2,275
1750	6	32 Libræ	ζ^1	2 47,68	3 47,61	2 47,58	15	18	47,61	—	47,87	—	-0,26	3,362
1751	5.6	10 Serpentis	—	—	—	5 9,66	15	20	9,66	—	9,16	—	+ 0,50	3,024
1752	7	Libræ	—	—	—	—	15	20	—	—	41,35	—	—	3,375
1753	4	3 Cor Bor	β	—	7 54,37	—	15	20	54,59	54,34	54,23	+ 0,05	+ 0,16	2,483
1754	3.4	13 Ursæ Min	γ^2	1 3,03	—	—	15	21	3,03	3,81	2,76	-0,78	+ 0,27	-0,179
1755	6	34 Libræ	ζ^3	—	1 12,70	—	15	21	12,69	—	12,07	—	+ 0,62	+ 3,363

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precessi- on.				
	No.		1831		No.					1832			No.		1833	
	No.	1831	No.	1832	No.	1833				No.	1832		No.	1833	No.	1834
1711	—	—	1	36 1,60	2	36 1,85	105 36 1,77	35 58,50	35 55,83	+ 3,27	+ 5,94	+ 14,347				
1712	—	—	5	49 42,81	—	—	105 49 42,81	—	49 35,42	+ 7,39	+ 7,39	14,336				
1713	—	—	—	—	5	37 37,33	134 37 37,33	—	37 29,42	+ 7,91	+ 7,91	14,330				
1714	—	—	—	—	5	41 18,81	41 41 18,81	—	41 19,33	— 0,52	— 0,52	14,285				
1715	5 28 20,19	—	—	—	—	—	64 28 20,19	—	28 19,63	+ 0,56	+ 0,56	14,183				
1716	—	—	4	20 12,46	—	—	113 20 12,46	—	20 10,94	+ 1,52	+ 1,52	14,175				
1717	5 27 10,61	—	—	—	—	—	141 27 10,61	—	27 8,47	+ 2,14	+ 2,14	14,164				
1718	3 5 27,13	2	5 26,61	—	—	—	138 5 26,92	—	5 29,46	— 2,54	— 2,54	14,162				
1719	—	—	—	—	3	—	63 2 58,66	—	2 58,86	— 0,20	— 0,20	14,107				
1720	—	—	—	—	2	—	64 14 38,27	—	14 38,81	— 0,54	— 0,54	14,099				
1721	—	—	5	8 56,41	—	—	109 8 56,41	8 58,93	8 57,99	— 2,52	— 1,58	14,014				
1722	—	—	—	—	5	2 54,17	158 2 54,17	—	2 54,01	+ 0,16	+ 0,16	13,974				
1723	—	—	—	—	3	—	109 0 21,37	—	0 27,56	— 6,19	— 6,19	13,945				
1724	—	—	5	9 53,23	—	—	148 9 53,23	—	9 52,39	+ 0,84	+ 0,84	13,904				
1725	—	—	—	—	2	—	107 8 7,99	—	8 2,08	+ 5,91	+ 5,91	13,861				
1726	—	—	—	—	3	—	111 46 18,71	—	46 16,55	+ 2,16	+ 2,16	13,762				
1727	—	—	4	25 54,59	—	—	84 25 54,59	—	25 49,02	+ 5,57	+ 5,57	13,749				
1728	3 14 58,99	—	—	—	1	14 59,86	137 14 59,21	—	14 48,18	+ 11,03	+ 11,03	13,748				
1729	—	—	—	—	3	0 1,09	89 0 1,09	—	0 1,64	— 0,55	— 0,55	13,723				
1730	4 12 32,02	—	—	—	1	12 31,67	60 12 31,95	—	12 19,33	+ 12,62	+ 12,62	13,709				
1731	—	—	—	—	5	31 29,45	119 31 29,45	31 25,78	31 28,71	+ 3,67	+ 0,74	13,700				
1732	5 45 23,49	—	—	—	—	—	98 45 23,49	45 26,80	45 23,04	— 3,31	+ 0,45	13,678				
1733	—	—	6	3 15,79	—	—	56 3 15,79	3 14,04	3 10,71	+ 1,75	+ 5,08	13,628				
1734	—	—	1	2 1,59	4	2 0,72	130 2 0,89	—	1 50,70	+ 10,19	+ 10,19	13,525				
1735	—	—	—	—	5	18 30,89	137 18 30,89	—	18 29,28	+ 1,61	+ 1,61	13,518				
1736	—	—	—	—	3	—	87 35 34,98	—	35 35,00	— 0,02	— 0,02	13,500				
1737	—	—	—	—	2	—	68 48 24,79	—	48 28,00	— 3,21	— 3,21	13,490				
1738	2 38 43,80	—	—	—	2	38 45,10	125 38 44,45	—	38 40,00	+ 4,45	+ 4,45	13,473				
1739	—	—	5	4 37,56	—	—	134 4 37,56	—	4 33,35	+ 4,21	+ 4,21	13,465				
1740	—	—	—	—	—	—	107 32 —	—	32 26,38	—	—	13,458				
1741	—	—	—	—	—	—	104 56 —	—	56 2,86	—	—	13,441				
1742	5 14 56,97	—	—	—	—	—	126 14 56,97	—	14 54,86	+ 2,11	+ 2,11	13,390				
1743	—	—	5	40 3,25	—	—	88 40 3,25	—	40 2,88	+ 0,37	+ 0,37	13,387				
1744	—	—	—	—	1	31 45,39	104 31 45,39	—	31 26,28	+ 19,11	+ 19,11	13,309				
1745	—	—	4	49 33,25	2	49 31,58	76 49 32,69	—	49 27,35	+ 5,34	+ 5,34	13,259				
1746	—	—	—	—	2	45 50,54	101 45 50,54	—	45 47,86	+ 2,68	+ 2,68	13,214				
1747	—	—	—	—	2	42 49,15	99 42 49,15	—	42 39,97	+ 9,18	+ 9,18	13,216				
1748	—	—	5	58 29,75	—	—	73 58 29,75	—	58 27,97	+ 1,78	+ 1,78	13,023				
1749	5 1 49,15	—	—	—	1	1 47,31	52 1 48,84	1 46,87	1 41,52	+ 1,97	+ 7,32	13,013				
1750	—	—	2	7 28,86	3	7 27,46	106 7 28,02	—	7 20,87	+ 7,15	+ 7,15	12,971				
1751	—	—	—	—	4	34 6,44	87 34 6,44	—	34 1,76	+ 4,68	+ 4,68	12,880				
1752	—	—	—	—	—	—	106 41 18,12	—	41 19,76	—	—	12,844				
1753	5 18 40,07	—	—	—	—	—	60 18 40,07	18 38,28	18 35,42	+ 1,79	+ 4,65	12,828				
1754	5 34 4,46	—	—	—	—	—	17 34 4,46	35 5,20	34 3,43	— 0,74	+ 1,03	12,813				
1755	—	—	4	1 38,09	—	—	106 1 38,09	—	1 33,67	+ 4,42	+ 4,42	12,810				

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832		Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831	No. 1832	No. 1833	h. m.	s.			Green.	A. S.	
			s.	s.	s.			s.	s.	s.	s.	
1756	3	12 Draconis	1 12,08	4 12,24	—	15 21 12,24	12,08	11,80	+0,16	+0,44	+1,319	
1757	5	Triang Aus ϵ	—	—	—	15 21 —	—	27,44	—	—	5,349	
1758	6.7	Librae	—	1 58,46	2 58,66	15 22 58,58	—	58,35	—	+0,23	3,426	
1759	6	35 Librae ζ^4	—	1 26,54	2 26,71	15 23 26,63	26,64	25,97	-0,01	+0,66	3,370	
1760	4	Lupi γ	3 58,73	—	—	15 23 58,73	—	58,67	—	+0,06	3,957	
1761	6	11 Serpentis	—	—	4 19,25	15 24 19,25	—	18,57	—	+0,68	3,079	
1762	6	36 Librae	—	1 27,30	—	15 24 27,28	—	26,94	—	+0,34	3,608	
1763	4	37 Librae f^1	7 0,43	—	—	15 25 0,43	0,37	0,02	+0,06	+0,41	3,242	
1764	4.5	38 Librae γ	3 8,24	3 8,35	1 8,48	15 26 8,26	8,46	8,58	-0,20	-0,32	3,333	
1765	4.5	4 Cor Bor θ	—	2 9,65	3 9,43	15 26 9,56	9,48	8,91	+0,08	+0,65	2,416	
1766	5	Lupi ι	—	—	2 46,11	15 26 46,05	—	46,01	—	+0,04	4,012	
1767	3	13 Serpentis δ	—	—	1 47,10	15 26 47,11	47,04	46,60	+0,07	+0,51	2,862	
1768	5	39 Librae	—	—	—	15 26 —	—	50,46	—	—	3,615	
1769	7	Scorpii	—	—	—	15 27 —	—	24,52	—	—	3,574	
1770	2	5 Cor Bor α	1 34,71	15 34,62	22 34,63	15 27 34,65	34,65	34,15	0,00	+0,50	2,526	
1771	6	15 Serpentis	—	—	—	15 27 —	—	55,69	—	—	2,721	
1772	6	14 Serpentis A^1	—	—	—	15 27 —	—	56,74	—	—	3,068	
1773	7	Librae	—	—	—	15 28 —	—	3,90	—	—	3,619	
1774	4.5	40 Librae	6 21,56	—	—	15 28 21,56	21,68	21,20	-0,12	+0,36	3,657	
1775	6	16 Serpentis	—	—	3 25,75	15 28 25,76	—	25,17	—	+0,59	2,871	
1776	6	18 Serpentis τ^2	—	—	—	15 28 —	—	45,00	—	—	2,752	
1777	5	6 Cor Bor μ	1 4,91	1 5,03	—	15 29 4,97	—	4,85	—	+0,12	2,195	
1778	6	41 Librae ϕ	—	—	—	15 29 —	—	14,91	—	—	3,427	
1779	5	Lupi g	—	—	—	15 29 —	—	40,77	—	—	4,093	
1780	5.6	42 Librae χ	—	3 21,76	—	15 30 21,75	22,02	21,63	-0,27	+0,12	3,524	
1781	5	43 Librae κ	7 16,88	—	2 17,02	15 32 16,91	16,98	16,75	-0,07	+0,16	3,438	
1782	5	7 Cor Bor ζ	4 3,32	—	—	15 33 3,32	—	2,77	—	+0,55	2,256	
1783	6	19 Serpentis τ^3	—	—	3 15,96	15 33 15,98	—	15,47	—	+0,51	2,749	
1784	5.6	20 Serpentis χ	—	—	3 53,48	15 33 53,50	—	52,94	—	+0,56	2,812	
1785	5	21 Serpentis ι	6 3,93	—	—	15 34 3,93	—	3,13	—	+0,80	2,672	
1786	6	22 Serpentis	—	—	1 21,52	15 34 21,54	—	20,89	—	+0,65	2,698	
1787	4.5	44 Librae η	2 38,15	4 38,25	2 38,14	15 34 38,19	38,19	37,83	0,00	+0,36	3,359	
1788	7	Librae	—	2 0,55	—	15 34 0,54	—	—	—	—	3,346	
1789	6	23 Serpentis ψ	—	—	2 35,43	15 35 35,45	—	35,22	—	+0,23	3,010	
1790	6	8 Cor Bor γ	—	—	—	15 35 —	—	40,48	—	—	2,522	
1791	2.3	24 Serpentis α	—	11 59,95	20 59,94	15 35 59,95	59,93	59,77	+0,02	+0,18	+2,936	
1792	5	15 Ursæ Min. θ	—	—	—	15 36 —	—	35,25	—	—	-1,990	
1793	6	26 Serpentis	—	—	4 4,37	15 37 4,39	—	3,29	—	+1,10	+2,720	
1794	6	25 Serpentis A^2	—	—	3 24,96	15 37 24,96	—	24,49	—	+0,47	3,092	
1795	4.5	27 Serpentis λ	6 17,86	—	3 17,89	15 38 17,87	17,86	17,61	+0,01	+0,26	2,917	
1796	3.4	28 Serpentis β	6 26,22	—	—	15 38 26,22	26,05	25,87	+0,17	+0,35	2,757	
1797	4.5	5 Lupi χ	4 18,28	1 18,43	—	15 40 18,30	18,22	18,21	+0,08	+0,09	3,782	
1798	3	Triang Aus ρ	1 25,63	1 25,75	—	15 40 25,66	—	26,22	—	+0,56	5,208	
1799	3.4	32 Serpentis μ	—	—	5 51,75	15 40 51,75	51,66	51,61	+0,09	+0,14	3,124	
1800	5	1 Scorpii b	—	—	2 53,61	15 40 53,58	—	53,09	—	+0,49	3,585	

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precessi- on.	
	1831		1832		1833					Green.	A. S. C.		
	No.		No.		No.								
		"		"		"	"	"	"	"	"	"	
1756	5 26	37,72					30 26 37,72	26 35,58	26 35,88	+2,14	+	1,84	+12,806
1757					5 44	31,34	153 44 31,34		44 31,57		—	0,23	12,797
1758					2		109 5 27,75		5 28,56		—	0,81	12,691
1759					3		106 16 35,40	16 35,87	16 31,48	—0,47	+	3,92	12,659
1760	2 35	40,85	5 35	41,59			130 35 41,38		35 35,00		+	6,38	12,624
1761					4 36	39,57	90 36 39,57		36 37,79		+	1,78	12,599
1762					3		117 28 13,82		28 22,48		—	8,66	12,591
1763					4 28	59,60	99 28 59,60	28 56,20	28 55,62	+3,40	+	3,98	12,552
1764	3 13	21,85			1 13	22,53	104 13 22,02	13 21,96	13 15,28	+0,06	+	6,74	12,475
1765					3 4	8,72	58 4 8,72	4 9,16	4 7,36	—0,44	+	1,36	12,472
1766					2 0	32,11	132 0 32,11		0 27,26		+	4,85	12,433
1767					3		78 53 37,36	53 39,87	53 33,96	—2,51	+	3,40	12,430
1768					2		117 34 15,08		34 15,86		—	0,78	12,427
1769					3		115 43 3,08		42 58,70		+	4,38	12,388
1770	8 42	52,53	13 42	52,48	24 42	54,15	62 42 53,38	42 54,22	42 49,48	—0,84	+	3,90	12,375
1771					1 46	46,25	71 46 46,25		46 43,31		+	2,94	12,351
1772					3		89 59 57,15		59 50,84		+	6,31	12,350
1773							117 38		38 42,88		—		12,343
1774	4 13	5,05	3 13	5,09			119 13 5,06	13 3,77	13 1,72	+1,29	+	3,34	12,324
1775							79 25		25 16,65		—		12,317
1776							73 19		19 7,87		—		12,291
1777			1 25	40,82	4 25	43,14	50 25 42,68		25 35,02		+	7,66	12,270
1778					3		108 44 27,25		44 28,58		—	1,33	12,261
1779	1 5	48,21			2 5	49,66	134 5 49,21		5 36,60		+	12,61	12,233
1780					3		113 15 52,12	15 53,28	15 48,61	—1,16	+	3,51	12,184
1781					5 7	39,48	109 7 39,48	7 38,64	7 32,86	+0,84	+	6,62	12,050
1782	1 48	51,22	1 48	49,97	3 48	51,04	52 48 50,77		48 48,02		+	2,75	11,994
1783			1 25	37,19	5 25	38,85	73 25 38,57		25 36,47		+	2,10	11,980
1784					1 36	28,18	76 36 28,18		36 26,04		+	2,14	11,937
1785	5 47	3,11					69 47 3,11		46 58,00		+	5,11	11,924
1786					3		70 59 43,88		59 39,47		+	4,41	11,904
1787	4 7	55,06	2 7	55,89			105 7 55,34	7 51,33	7 46,92	+4,01	+	8,42	11,885
1788					3		104 29 52,13		29 40,71		+	11,42	11,858
1789					3 56	26,46	86 56 26,46		56 19,69		+	6,77	11,817
1790							63 10 0,63		9 56,58		+	4,05	11,810
1791	7 2	23,27	5 2	22,38	19 2	23,28	83 2 23,14	2 24,01	2 22,55	—0,87	+	0,59	11,788
1792	1 5	41,41			5 5	42,04	12 5 41,94		5 41,81		+	0,13	11,734
1793					3		72 12 8,99		12 2,05		+	6,94	11,712
1794					3		91 16 17,26		16 16,27		+	0,99	11,688
1795	5 6	54,83					82 6 54,83	6 53,98	6 53,26	+0,85	+	1,57	11,625
1796					5 2	47,97	74 2 47,97	2 49,64	2 41,14	—1,67	+	6,83	11,615
1797			3 6	30,10	2 6	27,18	123 6 28,93	6 24,44	6 26,67	+4,49	+	2,26	11,483
1798	1 54	2,06			4 54	2,88	152 54 2,71		53 51,07		+	11,64	11,477
1799	3 54	33,71			1 54	32,86	92 54 33,50	54 35,61	54 30,15	—2,11	+	3,35	11,442
1800					3		115 14 2,30		13 59,79		+	2,51	11,441

lxxxii *Comparison of the Observed Places of the Principal Fixed Stars*

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832		Greenh Catal.	A. S. Catal.	Difference from		Annual Preces- sion	
			No.	1831	No.	1832	No.			1833	Green.		A. S.
			s.	s.	s.	h. m.	s.	s.	s.	s.	s.		
1801	4	35 Serpentis	π	—	—	3 11,04	15 41 11,06	10,84	10,42	+0,22	+0,64	+2,697	
1802	6	34 Serpentis	ω	—	—	3 49,28	15 41 49,28	—	48,90	—	+0,38	3,016	
1803	3	37 Serpentis	ε	—	—	2 26,79	15 42 26,79	26,82	26,65	—0,03	+0,14	2,972	
1804	6	36 Serpentis	δ	—	—	—	15 42 —	—	30,64	—	—	3,118	
1805	4.5	10 Cor Bor	δ	—	—	—	15 42 —	33,11	32,54	—	—	2,516	
1806	5	2 Scorpii	Δ ¹	2 32,60	—	—	15 43 32,60	32,64	31,97	—0,04	+0,63	3,579	
1807	5	45 Libræ	λ	1 35,75	—	—	15 43 35,75	35,75	35,33	0,00	+0,42	3,463	
1808	6	Scorpii	f ¹	—	—	—	15 43 —	—	52,77	—	—	3,561	
1809	5	38 Serpentis	ρ	—	—	3 53,44	15 43 53,46	53,35	52,52	+0,11	+0,94	2,632	
1810	6	Scorpii	f ²	—	—	1 57,19	15 43 57,17	—	56,84	—	+0,33	3,549	
1811	4.5	46 Libræ	θ	5 16,39	—	—	15 44 16,39	16,41	16,59	—0,02	—0,20	3,390	
1812	6	3 Scorpii	Δ ²	—	—	3 35,53	15 44 35,51	—	35,16	—	+0,35	3,579	
1813	5	11 Cor Bor	π	—	4 53,96	—	15 44 53,98	—	53,79	—	+0,19	2,256	
1814	7	47 Libræ	—	—	1 18,74	2 18,62	15 45 18,64	—	18,22	—	+0,42	3,448	
1815	6.7	4 Scorpii	—	—	—	3 21,91	15 45 21,91	—	21,72	—	+0,19	3,604	
1816	4	5 Scorpii	ρ	2 31,89	—	2 32,16	15 46 32,01	31,88	31,66	+0,13	+0,35	3,679	
1817	6	Serpentis	—	—	—	—	15 47 —	—	10,67	—	—	2,643	
1818	3.4	6 Scorpii	π	5 42,31	—	—	15 48 42,31	42,46	42,24	—0,15	+0,07	3,606	
1819	3	41 Serpentis	γ	—	—	3 41,34	15 48 41,36	41,85	41,79	—0,49	—0,43	2,741	
1820	5	48 Libræ	ψ	—	—	3 47,55	15 48 47,53	47,45	47,42	+0,08	+0,11	3,343	
1821	5	Lupi	η	—	—	—	15 49 —	—	0,85	—	—	3,943	
1822	6	Serpentis	—	—	—	3 29,81	15 49 29,82	—	29,52	—	+0,20	2,769	
1823	3	7 Scorpii	δ	5 24,79	1 24,81	—	15 50 24,79	24,80	24,85	—0,01	—0,06	+3,527	
1824	4	16 Ursæ Min	ζ	—	—	—	15 50 —	13,92	13,23	—	—	—2,384	
1825	4.5	13 Cor Bor	ε	4 38,11	—	—	15 50 38,11	38,18	38,08	—0,07	+0,03	+2,484	
1826	5.6	49 Libræ	—	—	2 54,72	3 54,80	15 50 54,75	—	54,26	—	+0,49	3,342	
1827	6	50 Libræ	—	—	—	2 44,30	15 51 44,30	—	43,89	—	+0,41	3,226	
1828	6	3 Herculis	—	—	—	3 31,19	15 52 31,19	—	30,84	—	+0,35	2,971	
1829	6	Scorpii	—	—	—	5 12,63	15 53 12,62	—	12,25	—	+0,37	3,607	
1830	6	5 Herculis	r	—	—	4 41,59	15 53 41,61	—	41,18	—	+0,43	2,692	
1831	5	Normæ	δ	2 38,50	—	1 39,11	15 54 38,77	—	39,02	—	—0,25	4,197	
1832	4.5	44 Serpentis	π	—	—	2 3,42	15 55 3,45	3,92	3,19	—0,47	+0,26	2,577	
1833	4.5	51 Libræ	ξ	5 8,54	—	—	15 55 8,54	8,33	8,23	+0,21	+0,31	3,288	
1834	6	43 Serpentis	—	—	—	2 27,64	15 55 27,64	—	26,92	—	+0,72	2,959	
1835	4	Lupi	θ	—	—	—	15 55 —	—	34,74	—	—	3,909	
1836	2	8 Scorpii	β	8 40,95	6 40,78	—	15 55 40,87	40,90	40,93	—0,03	—0,06	3,469	
1837	4.5	9 Scorpii	ω ₁	5 59,68	—	—	15 56 59,68	59,68	59,74	0,00	—0,06	3,490	
1838	4.5	10 Scorpii	ω ₂	—	—	—	15 57 —	34,04	33,67	—	—	3,496	
1839	5	6 Herculis	υ	—	—	—	15 57 —	33,98	33,19	—	—	1,856	
1840	6	Scorpii	m	—	—	3 54,21	15 57 54,19	—	53,69	—	+0,50	3,626	
1841	6	11 Scorpii	—	—	—	4 17,44	15 58 17,43	—	17,17	—	+0,26	3,319	
1842	3.4	13 Draconis	θ	—	—	3 44,46	15 58 44,59	—	45,00	—	—1,31	1,147	
1843	6	45 Serpentis	g ¹	—	—	3 36,93	15 59 36,95	—	36,29	—	+0,66	2,857	
1844	6	46 Serpentis	g ²	—	—	4 5,75	16 0 5,77	—	5,20	—	+0,57	2,853	
1845	5	Triang Aus	δ	4 13,30	1 13,22	—	16 0 13,27	—	14,59	—	—1,32	5,363	

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precession	
	No. 1831	No. 1832	No. 1833				Green.	A. S. C.		
1801	—	—	5 20 3,31	71 20 3,31	20 3,33	19 58,82	—0,02	+	4,49	+ 11,418
1802	—	—	1 17 6,04	87 17 6,04	—	17 2,71	—	+	3,33	11,373
1803	1 0 44,29	—	3 0 44,24	85 0 44,25	0 38,95	0 36,66	+5,30	+	7,59	11,327
1804	—	—	3 —	92 34 31,05	—	34 29,19	—	+	1,86	11,323
1805	5 24 42,48	—	—	63 24 42,48	24 44,02	24 39,27	—1,54	+	3,21	11,319
1806	2 49 9,52	—	—	114 49 9,52	49 3,89	49 2,91	+5,63	+	6,61	11,250
1807	—	—	2 39 31,83	109 39 31,83	39 29,55	39 23,72	+2,28	+	8,11	11,246
1808	—	—	3 —	114 1 29,54	—	1 29,16	—	+	0,38	11,225
1809	—	—	3 30 39,01	68 30 39,01	30 42,59	30 33,07	—3,58	+	0,94	11,223
1810	—	—	3 —	113 28 10,99	—	28 10,89	—	+	0,10	11,220
1811	—	3 13 47,89	2 13 46,58	106 13 47,37	13 45,88	13 42,46	+1,49	+	4,91	11,196
1812	—	—	—	114 44 —	—	44 14,84	—	—	—	11,174
1813	2 48 59,65	—	—	53 48 59,65	—	48 57,33	—	+	2,32	11,148
1814	—	—	3 —	108 52 45,36	—	52 43,88	—	+	1,48	11,121
1815	—	—	—	115 45 —	—	45 45,44	—	—	—	11,117
1816	—	—	5 42 56,20	118 42 56,20	42 48,47	42 55,26	+7,73	+	0,94	11,033
1817	—	—	3 11 28,85	69 11 28,85	—	11 28,92	—	—	0,07	10,983
1818	5 37 24,84	—	—	115 37 24,84	37 21,35	37 21,32	+3,49	+	3,52	10,873
1819	6 47 1,29	—	—	73 47 1,29	47 4,47	47 1,12	—3,18	+	0,17	12,182*
1820	—	—	5 47 13,99	103 47 13,99	—	47 13,44	—	+	0,55	10,866
1821	—	—	4 54 24,49	127 54 24,49	—	54 24,43	—	+	0,06	10,851
1822	—	—	3 —	75 5 56,94	—	5 55,27	—	+	1,67	10,813
1823	6 8 12,79	—	—	112 8 12,79	8 9,35	8 3,85	+3,44	+	8,94	10,747
1824	—	2 41 32,68	1 41 33,89	11 41 33,08	41 34,20	41 35,38	—1,12	—	2,30	10,747
1825	—	—	4 37 49,57	62 37 49,57	37 51,22	37 48,16	—1,65	+	1,41	10,728
1826	—	—	3 —	106 1 55,47	—	1 53,88	—	+	1,64	10,710
1827	—	—	3 —	97 55 44,80	—	55 41,40	—	+	3,40	10,649
1828	—	—	3 —	85 5 50,89	—	5 45,70	—	+	5,19	10,590
1829	—	—	3 —	115 23 23,91	—	23 19,53	—	+	4,38	10,540
1830	—	—	3 12 42,98	71 42 42,98	—	42 41,96	—	+	1,02	10,502
1831	4 42 33,43	1 42 32,49	—	134 42 33,24	—	42 27,26	—	+	5,98	10,434
1832	5 43 24,85	—	—	66 43 24,85	43 26,97	43 21,74	—2,12	+	3,11	10,400
1833	—	—	5 54 11,97	100 54 11,97	54 11,88	54 6,15	+0,09	+	5,82	10,395
1834	—	—	3 —	84 32 41,90	—	32 36,62	—	+	5,28	10,371
1835	—	1 20 14,29	5 20 12,64	126 20 13,75	—	20 10,86	—	+	2,89	10,364
1836	2 20 19,29	1 20 17,73	2 20 18,88	109 20 18,81	20 17,76	20 14,23	+1,05	+	4,58	10,355
1837	—	—	4 12 30,75	110 12 30,75	12 25,47	12 20,12	+5,28	+	10,63	10,257
1838	—	—	4 24 31,62	110 24 31,62	24 26,67	24 19,54	+4,95	+	12,08	10,214
1839	4 29 33,22	—	—	43 29 33,22	29 37,33	29 35,03	—4,11	—	1,81	10,211
1840	—	—	3 52 11,39	115 52 11,39	—	52 7,13	—	+	4,26	10,189
1841	—	—	3 —	102 17 10,42	—	17 8,88	—	+	1,54	10,159
1842	6 59 4,09	1 59 3,40	—	30 59 3,92	59 4,21	59 2,01	—0,29	+	1,91	10,118
1843	—	—	4 39 13,87	79 39 13,87	—	39 3,07	—	+	10,80	10,058
1844	—	—	—	79 27 55,48	—	27 48,27	—	+	7,21	10,022
1845	4 14 39,27	1 14 42,01	—	153 14 39,82	—	14 36,33	—	+	3,49	10,016

lxxxiv *Comparison of the Observed Places of the Principal Fixed Stars*

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832			Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831	No. 1832	No. 1833	h.	m.	s.			Green.	A. S.	
1846	6	47 Serpentis			2 22,61	16	0	22,62		22,06		+ 0,56	+ 2,885
1847	5.6	7 Herculis	α^1			16	0			20,23			2,703
1848	6	Scorpii				16	0			37,07			3,709
1849	6	12 Scorpii	c^1		3 54,25	16	1	54,23		53,73		+ 0,50	3,685
1850	5	13 Scorpii	c^2			16	1			58,80			3,673
1851	4	14 Scorpii	ν	6 14,69		16	2	14,69	14,66	14,74	+ 0,03	- 0,05	3,469
1852	5	15 Scorpii	ζ	1 49,46		3 49,68	16	2 49,62		49,37		+ 0,25	3,265
1853	6	16 Scorpii				16	3			1,17			3,234
1854	6	Scorpii			2 48,70	16	3	48,69		48,69		0,00	3,515
1855	6	48 Serpentis				16	3			52,14			2,708
1856	6	10 Herculis	T			16	4			28,57			2,549
1857	6	17 Scorpii	ζ			3 34,07	16	4 34,06		33,80		+ 0,26	3,304
1858	6	9 Herculis	h			4 57,29	16	4 57,29		56,88		+ 0,41	2,956
1859	3	1 Ophiuchi	δ		5 33,11	13 33,00	16	5 33,03	32,95	32,60	+ 0,08	+ 0,43	3,135
1860	5	18 Scorpii	n	6 29,92			16	6 29,92		29,43		+ 0,49	3,231
1861	7	Scorpii		1 11,04		3 10,75	16	7 10,81		10,95		- 0,14	3,489
1862	5	Normæ	γ^2	5 18,44			16	7 18,44		18,08		+ 0,36	4,458
1863	5	Apodis	γ				16	7 Invis.		59,46			8,860
1864	5.6	Scorpii	d			3 53,83	16	7 53,81		53,61		+ 0,20	3,700
1865	6	Ophiuchi				4 5,70	16	8 5,70					3,141
1866	6	Scorpii	P				16	8		55,83			3,764
1867	6	17 Herculis				3 7,08	16	9 7,10		6,94		+ 0,16	2,553
1868	7	Scorpii			3 18,26		16	9 18,24		17,74		+ 0,50	3,494
1869	3	2 Ophiuchi	ϵ	5 26,38			16	9 26,38	26,32	26,16	+ 0,06	+ 0,22	3,156
1870	6	18 Cor Bor	ν			2 1,06	16	10 1,09		0,72		+ 0,37	2,395
1871	5.6	19 Scorpii	σ			3 32,54	16	10 32,52	32,59	32,20	+ 0,13	+ 0,32	3,590
1872	4	20 Scorpii	σ	1 59,56	1 59,37	1 59,30	16	10 59,40	59,42	59,31	- 0,02	+ 0,09	3,626
1873	5	50 Serpentis	σ	4 31,13		2 34,33	16	13 34,20		34,55		- 0,35	3,028
1874	5	4 Ophiuchi	\downarrow	6 17,12	3 17,04		16	14 17,09	17,05	17,00	+ 0,04	+ 0,09	3,495
1875	3.4	20 Herculis	γ	5 30,73		1 30,71	16	14 30,73	30,71	30,49	+ 0,02	+ 0,24	2,643
1876	4	22 Herculis	τ			5 41,47	16	14 41,52	41,73	41,60	- 0,21	- 0,08	1,797
1877	5	5 Ophiuchi	g			3 31,36	16	15 31,34	21,63	31,37	- 0,29	- 0,03	3,578
1878	7	Scorpii				2 31,56	16	15 31,54		31,61		- 0,07	3,577
1879	5	19 Cor Bor	ξ			3 33,02	16	15 33,05		33,13		- 0,08	2,359
1880	5	20 Cor Bor	ν^1			5 2,09	16	16 2,12		1,84		+ 0,28	2,252
1881	5	21 Cor Bor	ν^2				16	16		9,14			2,255
1882	5	7 Ophiuchi	ζ	3 17,82	3 17,91	2 18,05	16	17 17,91		17,08		+ 0,83	3,461
1883	5	51 Serpentis	ω	1 40,02			16	17 40,02		40,23		- 0,22	2,758
1884	5	3 Ophiuchi	ν			3 43,63	16	18 43,63		43,02		+ 0,61	3,237
1885	1	21 Scorpii	α		14 7,33	14 7,24	16	19 7,26	7,09	7,35	+ 0,17	- 0,09	3,659
1886	5	Apodis	β				16	19 Invisible		29,54			8,362
1887	5	25 Herculis				4 24,97	16	19 25,01		24,76		+ 0,25	2,130
1888	6	22 Scorpii	i				16	20		0,47			3,626
1889	5	Normæ	α	5 25,38			16	20 25,38		25,46		- 0,08	3,895
1890	7	Scorpii				3 4,95	16	21 4,92		4,88		+ 0,04	3,664

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precessi- on.	
	1831		1832		1833					Green.	A. S. C.		
	No.	"	No.	"	No.	"							
1846		—		—	3	—	81 0 47,38		0 47,81	—	0,43	+10,001	
1847		—		—	3	—	72 29 56,64		29 57,37	—	0,73	9,991	
1848		—		—	3	—	118 57 50,90		57 48,91	+	1,99	9,984	
1849		—		—	3	—	117 58 16,30		58 16,88	—	0,58	9,887	
1850	2 28	55,72		—		—	117 28 55,72		28 55,61	+	0,11	9,880	
1851		—		—	5	0 55,32	109 0 55,32	0 59,03	0 59,78	—3,71	—	4,46	9,860
1852		—		—	4	37 23,39	99 37 23,39		37 16,75	+	6,64	9,815	
1853		—		—	1	6 21,91	98 6 21,91		6 18,35	+	3,56	9,800	
1854		—		—	4	57 51,16	110 57 51,16		57 48,92	+	2,24	9,740	
1855		—		—	3	—	72 53 34,90		53 31,77	+	2,13	9,734	
1856		—		—	3	—	66 3 54,83		3 55,52	—	0,69	9,687	
1857		—		—	3	—	101 24 6,58		24 7,55	—	0,97	9,682	
1858		—		—	3	32 38,34	84 32 38,34		32 33,59	+	4,75	9,652	
1859	6 15	16,59	1 15	16,34	6 15	17,81	93 15 17,13	15 18,17	15 13,51	—1,04	+	3,62	9,607
1860	5 55	3,12		—		—	97 55 3,12		55 0,71	+	2,41	10,064*	
1861		—		—	4	40 48,35	109 40 48,35		40 42,64	+	5,71	9,482	
1862		—		—	5	44 6,08	139 44 6,08		44 1,01	+	5,07	9,475	
1863		—		—		—	168 29 Invisible		29 58,87		—	9,433	
1864		—		—	4	11 16 50	118 11 16 50		11 11,82	+	4,68	9,427	
1865		—		—	4	31 48,91	92 31 48,91		31 51,98	—	3,07	9,410	
1866		—		—	3	—	120 29 28,32		29 27,31	+	1,01	9,347	
1867		—		—	3	—	66 27 14,10		27 10,93	+	3,47	9,330	
1868		—		—	3	—	109 48 5,90		48 1,43	+	4,47	9,318	
1869	5 16	33,86		—		—	94 16 33,86	16 35,50	16 29,77	—1,64	+	4,09	9,306
1870		—		—	5	25 47,71	60 25 47,71		25 40,37	+	7,34	9,260	
1871		—		—	4	45 21,06	113 45 21,06	45 22,45	45 22,50	—1,39	—	1,44	9,222
1872	5 10	58,01	1 10	58,11		—	115 10 58,03	10 54,35	10 49,07	+3,68	+	8,96	9,187
1873	4 34	9,63	1 34	7,61		—	88 34 9,23		34 8,87	+	0,36	8,984	
1874		—	1 38	12,68	3	38 15,22	109 38 14,59	38 11,65	38 9,22	+2,94	+	5,37	8,930
1875	2 26	50,03		—	4	26 51,06	70 26 50,72	26 48,81	26 43,08	+1,91	+	7,64	8,910
1876		—		—	5	16 53,82	43 16 56,82	16 58,83	17 11,25	—2,01	—	14,43	8,893
1877		—		—	5	3 7,42	113 3 7,42	3 8,68	3 2,95	—1,26	+	4,47	8,833
1878		—		—	1	0 35,91	113 0 35,91		0 35,37	+	0,54	8,833	
1879	5 42	45,41		—		—	58 42 45,41		42 45,15	+	0,26	8,827	
1880		—		—	5	48 5,07	55 48 5,07		48 0,21	+	4,86	8,790	
1881		—		—	3	—	55 54 3,65		54 2,51	+	1,14	8,780	
1882		—	1 3	59,35	4	4 2,01	108 4 1,48		3 59,39	+	2,69	8,694	
1883		—		—	4	34 28,69	75 34 28,69		34 17,76	+	10,93	8,662	
1884	5 59	15,45		—		—	97 59 15,45		59 17,51	—	2,06	8,580	
1885	5 3	4,58	10 3	5,20	13 3	4,74	116 3 4,88	3 3,03	3 1,25	+1,85	+	3,63	8,550
1886		—		—		—	167 8 Invisible		8 23,92		—	8,533	
1887	4 13	8,88		—	2	13 9,49	52 13 9,08		13 3,86	+	5,22	8,522	
1888		—		—	3	—	114 44 17,24		44 9,98	+	7,26	8,479	
1889		—	1 19	48,92	4	19 49,21	124 19 49,09		19 45,33	+	3,76	8,447	
1890		—		—	3	—	116 9 46,50		9 46,81	—	0,31	8,394	

No.	Mag	Names.		Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832		Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion
				No. 1831	No. 1832	No. 1833	h. m.	s.			Green.	A. S.	
				s.	s.	s.			s.	s.	s.	s.	s.
1891	4.5	8 Ophiuchi	Φ	6 32,08	2 32,03	—	16 21 32,07	31,94	32,04	+0,13	+0,03	+3,422	
1892	3	14 Draconis	η	3 43,80	—	—	16 21 43,80	43,69	43,06	+0,11	+0,74	0,792	
1893	5	9 Ophiuchi	ω	—	—	3 11,16	16 22 11,14	11,37	11,31	-0,23	-0,17	3,537	
1894	4	10 Ophiuchi	λ	—	—	3 26,87	16 22 26,87	26,95	26,44	-0,08	+0,43	3,018	
1895	5	21 Ursæ Min	ν	—	—	1 29,69	16 22 30,01	—	30,65	—	-0,64	-1,867	
1896	2.3	27 Herculis	β	—	8 0,08	—	16 23 0,10	0,11	59,42	-0,01	+0,68	+2,579	
1897	5	30 Herculis	g	2 7,38	—	1 7,45	16 23 7,43	—	7,53	—	-0,10	1,961	
1898	5.6	28 Herculis	n	—	—	5 20,10	16 24 20,10	—	19,50	—	+0,60	2,942	
1899	4.5	29 Herculis	h	—	—	4 44,97	16 24 44,98	44,85	44,84	+0,13	+0,14	2,811	
1900	3.4	23 Scorpii	τ	6 26,36	—	—	16 25 26,36	26,31	26,31	+0,05	+0,05	3,715	
1901	5	12 Ophiuchi	—	1 32,66	—	4 32,55	16 27 32,57	—	32,01	—	+0,56	3,110	
1902	3.4	13 Ophiuchi	ζ	6 55,03	—	2 55,08	16 27 55,04	55,02	54,87	+0,02	+0,17	3,290	
1903	4.5	15 Draconis	Δ	—	—	3 20,13	16 28 20,31	20,80	20,66	-0,49	-0,35	-0,161	
1904	6	33 Herculis	—	—	—	4 42,41	16 28 42,41	—	41,72	—	+0,69	+2,907	
1905	4	35 Herculis	σ	2 41,29	1 41,42	—	16 28 41,34	41,50	41,08	-0,16	+0,26	1,928	
1906	2	Triang Aus	α	—	—	3 58,34	16 30 58,17	—	58,96	—	-0,79	6,239	
1907	5	24 Scorpii	m	5 52,01	1 52,01	—	16 31 52,01	52,05	51,87	-0,04	+0,14	3,456	
1908	6.7	Scorpii	—	—	—	5 30,68	16 34 30,66	—	30,44	—	+0,22	3,735	
1909	3	40 Herculis	ζ	6 57,33	15 57,31	—	16 34 57,32	57,33	56,86	-0,01	+0,46	2,246*	
1910	4	Aræ	η	5 19,43	—	—	16 35 19,43	—	20,06	—	-0,63	5,119	
1911	6	25 Scorpii	—	—	—	4 34,93	16 36 34,90	—	35,32	—	-0,42	3,656	
1912	6	16 Ophiuchi	ι	—	—	4 57,95	16 37 57,95	—	57,83	—	+0,12	3,039	
1913	3	44 Herculis	η	5 8,26	—	—	16 37 8,26	8,40	7,60	-0,14	+0,66	2,047	
1914	5	43 Herculis	i	2 46,34	—	3 46,34	16 37 46,34	—	45,73	—	+0,61	2,872	
1915	3	26 Scorpii	ε	—	3 18,10	1 18,14	16 39 18,08	18,54	17,83	-0,46	+0,25	3,870*	
1916	5.6	45 Herculis	e	—	—	4 30,44	16 39 30,45	—	30,11	—	+0,34	2,946	
1917	6	18 Ophiuchi	u	—	—	1 31,36	16 39 31,34	—	31,57	—	-0,23	3,635	
1918	5	18 Draconis	g	—	—	2 45,69	16 39 45,85	—	45,74	—	+0,11	0,387	
1919	3.4	Scorpii	μ ¹	—	—	2 30,42	16 40 30,39	—	30,28	—	+0,11	4,041	
1920	5	20 Ophiuchi	r	7 32,89	—	—	16 40 32,89	—	32,57	—	+0,32	3,300	
1921	4	Scorpii	μ ²	—	—	—	16 40 —	—	58,39	—	—	4,040	
1922	5	47 Herculis	k	5 10,33	—	—	16 42 10,11	—	10,11	—	0,00	2,901	
1923	6	21 Ophiuchi	—	—	1 54,08	3 54,11	16 42 54,10	—	53,84	—	+0,26	3,035	
1924	6.7	Scorpii	—	2 30,83	—	3 30,70	16 43 30,74	—	30,59	—	+0,15	3,531	
1925	5	50 Herculis	s	5 5,79	—	—	16 44 5,79	—	5,15	—	+0,64	2,336	
1926	5	52 Herculis	—	—	—	3 18,94	16 44 18,98	19,35	18,70	-0,37	+0,28	1,746	
1927	6	49 Herculis	—	—	—	4 26,34	16 44 26,36	—	26,10	—	+0,26	2,723	
1928	6.7	22 Ophiuchi	—	—	—	2 42,24	16 44 42,22	—	42,01	—	+0,21	3,611	
1929	3.4	Aræ	ζ	—	—	—	16 44 —	—	45,66	—	—	4,922	
1930	6	51 Herculis	X ²	—	—	—	16 44 —	—	47,19	—	—	2,480	
1931	5	23 Ophiuchi	q	3 37,33	—	—	16 45 37,33	—	37,15	—	+0,18	3,198	
1932	4	25 Ophiuchi	i	—	—	3 3,84	16 46 3,85	3,69	3,59	+0,16	+0,26	2,834	
1933	4.5	Aræ	ε	—	—	—	16 46 —	—	14,13	—	—	4,743	
1934	6	Ophiuchi	—	1 20,62	1 20,81	1 20,48	16 46 20,63	—	20,11	—	+0,52	3,444	
1935	5	53 Herculis	—	7 35,95	—	—	16 46 35,95	—	35,38	—	+0,57	2,276	

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession
	No. 1831	No. 1832	No. 1833				Green.	A. S. C.	
1891	—	—	5 14 21,66	106 14 21,66	14 20,17	14 16,56	+1,49	+ 5,10	+ 8,358
1892	—	—	5 6 11,59	28 6 11,59	6 14,64	6 13,93	-3,05	- 2,34	8,336
1893	—	1 5 57,65	4 5 58,37	111 5 58,23	—	5 51,01	—	+ 7,22	8,306
1894	—	—	3 38 32,27	87 38 32,27	38 29,22	38 25,11	+3,05	+ 7,16	8,284
1895	—	—	3 —	13 51 44,18	—	51 39,20	—	+ 4,98	8,266
1896	6 8 17,19	6 8 16,45	1 8 16 25	68 8 16,78	8 20,18	8 18,27	-3,40	- 1,49	8,239
1897	2 44 37,68	—	1 44 37,62	47 44 37,66	—	44 36,41	—	+ 1,25	8,227
1898	—	—	3 —	84 6 52,52	—	6 49,94	—	+ 2,58	8,134
1899	—	—	3 8 40,86	78 8 40,86	8 41 76	8 39,43	-0,90	+ 1,43	8,100
1900	1 51 31,49	—	4 51 31,04	117 51 31,13	51 32,26	51 28,47	-1,13	+ 2,66	8,047
1901	—	—	3 57 35,27	91 57 35,27	—	57 28,14	—	+ 7,13	7,877
1902	6 13 15,72	—	—	100 13 15,72	13 11,54	13 6,65	+4,18	+ 9,07	7,847
1903	—	—	4 52 10,44	20 52 10,44	52 7,75	52 5,00	+2,69	+ 5,44	7,803
1904	—	1 32 34,74	3 32 41,18	82 32 41,18	—	32 35,91	—	+ 5,27	7,783
1905	5 12 45,04	1 12 48,47	3 12 45,52	47 12 45,57	12 45,20	12 42,25	+0,37	+ 3,32	7,781
1906	—	—	5 42 19,65	158 42 19,65	—	42 12,17	—	+ 7,48	7,607
1907	6 24 33,15	—	—	107 24 33,15	—	24 30,18	—	+ 2,97	7,528
1908	—	1 11 18 35	4 11 18,05	118 11 18,11	—	11 16,86	—	+ 1,25	7,314
1909	4 5 16,01	10 5 16,55	8 5 16,38	58 5 16,38	5 19,16	5 11,97	-2,78	+ 4,41	7,275
1910	—	—	5 43 44,41	148 43 44,41	—	43 39,24	—	+ 5,17	7,251
1911	—	—	5 12 56,48	115 12 56,48	—	12 48,09	—	+ 8,39	7,145
1912	—	—	5 39 48,56	88 39 48,56	—	39 50,08	—	- 1,52	7,112
1913	7 45 15,68	—	1 45 16,33	50 45 15,74	45 15,34	45 11,05	+0,40	+ 4,69	7,096
1914	—	—	3 6 18,40	81 6 18,40	—	6 11,49	—	+ 6,91	7,046
1915	5 58 45,71	—	—	123 58 45,71	—	58 46,30	—	- 0,59	6,923
1916	—	—	2 26 45,90	84 26 45,90	—	26 36,62	—	+ 9,28	6,904
1917	—	1 20 7,82	—	114 20 7,82	—	20 11,68	—	- 3,86	6,904
1918	—	—	6 5 35,66	25 5 35,66	—	5 26,39	—	+ 9,27	6,876
1919	—	—	5 44 59,90	127 44 59,90	—	44 55,89	—	+ 4,01	6,825
1920	4 28 43,48	—	1 28 45,73	100 28 43,93	—	28 36,08	—	+ 7,85	6,819
1921	—	—	3 43 17,95	127 43 17,95	—	43 15,06	—	+ 2,89	6,786
1922	5 27 21,19	—	—	82 27 21,19	—	27 16,61	—	+ 4,58	6,684
1923	—	—	3 29 26,35	88 29 26,35	—	29 20,69	—	+ 5,66	6,625
1924	—	—	2 7 41,34	110 7 41,34	—	7 33,61	—	+ 7,73	6,575
1925	4 54 10,26	1 54 10,35	—	59 54 10,28	—	54 2,02	—	+ 8,26	6,525
1926	—	—	5 43 10,99	43 43 10,99	43 13,34	43 12,32	-2,35	- 1,33	6,504
1927	—	—	3 —	74 44 18,80	—	44 11,34	—	+ 7,46	6,497
1928	—	—	3 —	113 13 40,21	—	13 38,52	—	+ 1,69	6,477
1929	5 42 51,30	—	—	145 42 51,30	—	42 45,07	—	+ 6,23	6,476
1930	—	—	3 —	65 3 22,85	—	3 10,91	—	+ 11,94	6,467
1931	1 52 18,40	—	4 52 20,50	95 52 20,08	—	52 15,80	—	+ 4,28	6,400
1932	—	1 33 7,32	4 33 8,78	79 33 8,49	33 6,10	32 58,12	+2,39	+ 10,37	6,362
1933	—	—	4 53 28,71	142 53 28,71	—	53 25,05	—	+ 3,66	6,353
1934	—	—	3 —	106 31 49,84	—	31 53,58	—	- 3,74	6,341
1935	5 0 54,41	—	—	58 0 54,41	—	0 55,80	—	- 1,39	6,317

Ixxxviii *Comparison of the Observed Places of the Principal Fixed Stars*

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832			Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831	No. 1832	No. 1833						Green.	A. S.	
			s.	s.	s.	h.	m.	s.	s.	s.	s.	s.	s.
1936	6.7	24 Ophiuchi	—	—	3 40,82	16	46	40,80	—	40,55	—	+ 0,25	+ 3,603
1937	6.7	Scorpii	—	—	2 12,21	16	47	12,19	—	12,02	—	+ 0,17	3,512
1938	5.6	54 Herculis	—	—	—	16	47	—	—	59,07	—	—	2,638
1939	6	Ophiuchi	—	—	—	16	49	—	—	41,58	—	—	3,657
1940	4	27 Ophiuchi	x 5 43,40	2 43,28	—	16	49	43,36	43,36	43,04	0,00	+ 0,32	2,852
1941	6	26 Ophiuchi	x —	—	2 52,93	16	49	52,90	—	51,81	—	+ 1,09	3,655
1942	7	Ophiuchi	1 58,15	—	4 58,18	16	49	58,16	—	57,66	—	+ 0,50	3,481
1943	6	Scorpii	p —	—	3 1,61	16	51	1,58	—	1,51	—	+ 0,07	3,862
1944	6	29 Ophiuchi	s —	1 1,83	4 2,07	16	52	2,00	—	2,31	—	— 0,31	3,499
1945	6	30 Ophiuchi	p —	—	2 12,35	16	52	12,35	—	12,29	—	+ 0,06	3,156
1946	7	28 Ophiuchi	1 41,36	—	—	16	53	41,36	—	40,92	—	+ 0,44	3,677
1947	5	Scorpii	k 5 47,13	—	—	16	53	47,13	—	47,13	—	0,00	3,928
1948	3	58 Herculis	e 5 51,90	3 51,94	3 51,90	16	53	51,92	51,91	51,41	+ 0,01	+ 0,51	2,293
1949	7	Scorpii	—	—	3 49,87	16	54	49,84	—	48,57	—	+ 1,27	3,544
1950	5	19 Draconis	h —	—	3 6,72	16	55	6,88	—	6,05	—	+ 0,83	0,266
1951	6	Ophiuchi	—	—	4 15,47	16	55	15,46	—	15,31	—	+ 0,15	3,314
1952	5	59 Herculis	d 1 24,15	—	—	16	55	24,15	—	23,61	—	+ 0,54	2,208
1953	5.6	32 Ophiuchi	—	—	—	16	55	—	—	25,94	—	—	2,740
1954	6	28 Scorpii	—	—	3 10 55	16	56	10,53	—	10,84	—	— 0,31	3,569
1955	6	34 Ophiuchi	—	—	1 14,86	16	56	14,88	—	14,40	—	+ 0,48	2,752
1956	6	Ophiuchi	—	—	—	16	56	—	—	52,76	—	—	3,083
1957	5	60 Herculis	4 35,30	—	—	16	57	35,30	—	35,35	—	— 0,05	2,771
1958	6 7	Ophiuchi	—	—	4 30,13	16	58	30,11	—	29,99	—	+ 0,21	3,471
1959	6	Ophiuchi	—	—	5 33,93	16	59	33,93	—	33,63	—	+ 0,30	3,087
1960	4	Scorpii	η 5 7,53	—	—	17	0	7,53	—	7,97	—	— 0,44	4,272
1961	2.3	35 Ophiuchi	η 6 45,21	1 45,06	10 45,23	17	0	45,20	45,15	45,00	+ 0,05	+ 0,20	3,426
1962	4	21 Draconis	μ 3 51,61	—	—	17	1	51,61	51,58	51,29	+ 0,03	+ 0,32	1,242
1963	5	Herculis	—	—	3 4,62	17	2	4,58	—	4,81	—	— 0,23	+ 2,123
1964	4	22 Ursæ Min	ε —	—	1 —	17	3	26,89	27,43	24,26	— 0,54	+ 2,63	— 6,577*
1965	6.7	29 Scorpii	—	—	—	17	3	—	—	47,14	—	—	+ 3,722
1966	5	37 Ophiuchi	6 32,86	—	—	17	4	32,86	—	32,71	—	+ 0,15	2,821
1967	4.5	36 Ophiuchi	A 3 1,68	—	3 1,60	17	5	1,63	1,62	1,96	+ 0,01	— 0,33	3,671*
1968	7	30 Scorpii	—	—	1 54,65	17	5	54,62	—	55,28	—	— 0,66	3,671*
1969	5.6	Scorpii	u —	—	3 8,52	17	6	8,48	—	8,57	—	— 0,09	3,895
1970	3.4	64 Herculis	α 8 59,46	24 59,48	20 59,43	17	6	59,47	59,44	59,02	+ 0,03	+ 0,45	2,729
1971	6.7	31 Scorpii	—	—	3 13,87	17	7	13,84	—	13,69	—	+ 0,15	3,715
1972	6.7	Scorpii	—	—	3 24,80	17	7	24,76	—	24,30	—	+ 0,46	3,802
1973	5.6	39 Ophiuchi	o —	—	—	17	7	—	—	46,48	—	—	3,650
1974	6	Ophiuchi	—	—	—	17	7	—	—	51,61	—	—	3,644
1975	4.5	41 Ophiuchi	o 3 59,70	—	—	17	7	59,70	58,99	59,65	—	+ 0,05	3,074
1976	4	65 Herculis	δ —	—	3 8,10	17	8	8,13	8,07	7,06	+ 0,06	+ 1,07	2,460
1977	3	22 Draconis	ζ —	—	—	17	8	—	19,40	18,48	—	—	0,153
1978	3.4	67 Herculis	π 5 11,99	—	—	17	9	11,99	12,06	11,74	— 0,07	+ 0,25	2,986
1979	6.7	Ophiuchi	—	—	—	17	10	—	—	6,83	—	—	3,481
1980	6	66 Herculis	ω —	—	3 43,28	17	10	43,29	—	43,06	—	+ 0,23	2,813

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precession
	No. 1831	No. 1832	No. 1833				Green.	A. S. C.	
1936	—	—	4 52 30,21	112 52 30,21	—	52 29,29	—	+ 0,92	+ 6,314
1937	—	—	3 —	109 15 58,22	—	15 55,83	—	+ 2,39	6,270
1938	—	—	3 —	71 17 30,95	—	17 27,57	—	+ 3,38	6,202
1939	—	—	5 49 48,38	114 49 48,38	—	49 41,83	—	+ 6,55	6,063
1940	7 21 31,47	—	5 21 31,41	80 21 31,45	21 31,32	21 21,13	+ 0,13	+ 10,32	6,058
1941	—	—	4 43 33,04	114 43 33,04	—	43 29,44	—	+ 3,60	6,048
1942	—	—	4 —	107 58 42,17	—	58 39,36	—	+ 2,81	6,040
1943	—	—	3 —	121 53 5,19	—	53 1,89	—	+ 3,30	5,952
1944	—	—	3 —	108 37 46,14	—	37 45,14	—	+ 1,00	5,866
1945	—	—	3 —	93 57 47,63	—	57 41,15	—	+ 6,48	5,852
1946	—	—	3 27 1,97	115 27 1,97	—	26 58,16	—	+ 3,81	5,729
1947	5 52 38,09	—	—	123 52 38,09	—	52 38,56	—	— 0,47	5,721
1948	5 49 14,38	2 49 13,76	4 49 14,73	58 49 14,40	49 16,17	49 12,93	— 1,77	+ 1,47	5,711
1949	—	—	3 15 7,10	110 15 7,10	—	14 57,14	—	+ 9,96	5,634
1950	5 36 31,95	—	—	24 36 31,95	—	36 25,49	—	+ 6,46	5,601
1951	—	—	3 —	100 50 43,48	—	50 38,98	—	+ 4,50	5,596
1952	1 11 1,32	2 11 2,15	4 11 2,24	56 11 2,08	—	10 57,74	—	+ 4,34	5,582
1953	—	—	3 —	75 39 38,09	—	39 27,77	—	+ 10,32	5,580
1954	—	—	3 —	111 19 22,82	—	19 22,85	—	— 0,03	5,519
1955	—	—	—	76 10 —	—	10 54,70	—	—	5,512
1956	—	—	5 39 17,82	90 39 17,82	—	39 12,65	—	+ 5,17	5,459
1957	5 1 20,69	—	—	77 1 20,69	—	1 14,66	—	+ 6,03	5,399
1958	—	—	4 22 48,59	107 22 48,59	—	22 41,07	—	+ 7,52	5,324
1959	—	—	3 —	90 51 4,59	—	50 59,93	—	+ 4,66	5,233
1960	4 0 24,08	—	1 0 24,96	133 0 24,25	—	0 15,74	—	+ 8,51	5,188
1961	5 30 34,54	—	—	105 30 34,54	30 33,63	30 26,28	+ 0,91	+ 8,26	5,134
1962	5 18 24,52	—	3 18 24,87	85 18 24,65	18 22,55	18 20,86	+ 2,10	+ 3,79	5,034
1963	—	—	4 50 29,86	53 50 29,86	—	50 28,92	—	+ 0,94	5,018
1964	—	—	5 41 58,72	7 41 58,72	41 58,96	41 55,63	— 0,24	+ 3,09	4,881
1965	—	—	3 —	116 46 28,26	—	46 23,95	—	+ 4,31	4,877
1966	—	—	5 12 17,53	79 12 17,53	—	12 12,48	—	+ 5,05	4,810
1967	5 20 52,23	—	—	116 20 52,23	20 49,60	20 46,96	+ 2,63	+ 5,27	6,021*
1968	—	—	3 17 42,88	116 17 42,88	—	17 41,59	—	+ 1,29	5,936*
1969	—	—	3 —	122 27 43,56	—	27 47,18	—	— 3,62	4,678
1970	9 24 45,13	—	—	75 24 45,13	24 43,00	24 37,70	+ 2,13	+ 7,43	4,603
1971	—	—	3 —	116 26 5,03	—	26 1,30	—	+ 3,73	4,585
1972	—	—	—	122 21 —	—	21 38,74	—	—	4,570
1973	—	—	—	114 5 —	—	5 39,65	—	—	4,538
1974	—	—	—	113 52 —	—	52 38,93	—	—	4,531
1975	5 14 54,35	—	—	90 14 54,35	14 56,82	14 53,37	— 2,47	+ 0,98	4,518
1976	—	—	5 57 30,83	64 57 30,83	57 26,35	57 20,42	+ 4,48	+ 10,41	4,506
1977	—	—	5 4 41,17	24 4 41,17	4 42,09	4 40,84	— 0,92	+ 0,33	4,483
1978	1 59 49,10	—	4 59 46,42	52 59 46,95	59 49,58	59 46,62	— 2,63	+ 0,33	4,413
1979	—	—	1 34 20,67	167 34 20,67	—	34 19,56	—	+ 1,11	4,338
1980	—	—	—	78 56 —	—	56 42,84	—	—	4,285

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.		Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832			Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion	
				No. 1831	No. 1832	No. 1833	h.	m.				Green.	A. S.		
								s.	s.				s.		s.
1981	4.5	40 Ophiuchi	ρ	5 56,43	—	2 56,52	17	10	56,48	56,39	56,65	+0,09	+0,43	+3,567	
1982	4	68 Hercules	u	—	—	3 7,32	17	11	7,36	7,45	7,38	-0,09	-0,02	2,211	
1983	3	Aræ	γ	—	—	—	17	11	—	—	18,46	—	—	5,019	
1984	3	Aræ	β	—	—	—	17	11	—	—	20,97	—	—	4,958	
1985	4.5	53 Serpentis	v	—	—	3 23,05	17	11	23,04	23,10	23,23	-0,06	-0,19	3,362	
1986	3.4	42 Ophiuchi	θ	5 42,13	—	—	17	11	42,13	42,08	41,88	+0,05	+0,25	3,672	
1987	4.5	69 Hercules	e	1 52,84	—	2 52,74	17	11	52,80	52,96	52,34	-0,16	+0,46	2,066	
1988	6	43 Ophiuchi	y	—	—	4 47,85	17	12	47,82	47,68	47,78	+0,14	+0,04	3,762	
1989	5.6	70 Hercules	a	—	—	—	17	4	—	—	58,76	—	—	2,467	
1990	6	Scorpii	—	—	1 39,66	2 39,66	17	14	39,64	—	39,41	+0,23	—	3,578	
1991	7	33 Scorpii	—	—	—	5 50,63	17	14	50,60	—	50,67	—	-0,07	3,654	
1992	4	Aræ	δ	2 57,60	2 57,52	—	17	15	57,53	—	59,12	—	-1,59	5,389	
1993	5.6	44 Ophiuchi	b	—	—	2 7,00	17	16	6,98	7,11	7,11	-0,13	-0,13	3,652	
1994	5	45 Ophiuchi	d	4 38,08	2 38,32	—	17	16	38,15	—	38,09	+0,06	—	3,817	
1995	6.7	Ophiuchi	—	—	—	3 55,60	17	16	55,57	—	55,17	+0,40	—	3,813	
1996	6	73 Hercules	—	—	—	4 5,03	17	17	5,66	—	4,56	+0,50	—	2,507	
1997	6	47 Ophiuchi	—	—	—	3 36,89	17	17	36,88	—	37,04	-0,16	—	3,356	
1998	5.6	Ophiuchi	—	—	—	1 43,58	17	17	43,58	—	43,24	+0,34	—	3,181	
1999	4	75 Hercules	ρ	6 53,45	—	4 53,30	17	17	53,39	53,50	53,03	-0,11	+0,36	2,067	
2000	4.5	49 Ophiuchi	σ	5 10,93	—	—	17	18	10,93	11,10	10,89	-0,17	+0,04	2,969	
2001	3	Aræ	α	—	—	1 52,32	17	18	52,25	—	52,76	—	-0,51	4,620	
2002	3.4	34 Scorpii	v	—	1 20,78	1 21,13	17	19	20,92	—	21,18	-0,26	—	4,064	
2003	6	Herculis	—	—	—	—	17	19	—	—	33,85	—	—	2,583	
2004	6	Ophiuchi	—	—	—	2 15,84	17	20	15,84	—	15,67	+0,17	—	3,057	
2005	5	51 Ophiuchi	e_2	2 10,37	3 10,45	—	17	21	10,41	10,32	10,61	+0,09	-0,20	3,649	
2006	6.7	Sagittarii	—	—	—	4 18,92	17	21	18,89	—	18,82	+0,07	—	3,714	
2007	3	35 Scorpii	λ	3 12,79	1 12,62	3 12,78	17	22	12,74	12,65	12,77	+0,09	-0,03	4,060	
2008	6	Ophiuchi	h	—	—	5 56,18	17	22	56,18	—	56,05	+0,13	—	3,002	
2009	4.5	76 Hercules	λ	6 57,11	—	1 57,11	17	23	57,11	57,12	56,93	-0,01	+0,18	2,417	
2010	5	Scorpii	—	4 59,57	2 59,32	—	17	24	59,48	—	59,17	+0,31	—	4,119	
2011	7	52 Ophiuchi	—	—	1 12,38	2 12,63	17	25	12,53	—	12,33	+0,20	—	3,599	
2012	5	Scorpii	θ	—	—	3 15,68	17	25	15,62	—	15,37	+0,25	—	4,294	
2013	6	78 Hercules	—	—	—	4 13,86	17	25	13,89	—	13,38	+0,51	—	2,350	
2014	6	54 Ophiuchi	—	—	—	—	17	25	—	—	37,02	—	—	2,756	
2015	6	53 Ophiuchi	f	—	—	1 38,58	17	26	38,59	—	38,32	+0,27	—	2,842	
2016	2	23 Draconis	β	1 38,54	—	2 38,64	17	26	38,66	38,44	38,01	+0,22	+0,65	1,349	
2017	2	55 Ophiuchi	a	4 8,27	26 8,45	16 8,43	17	27	8,42	8,39	7,97	+0,03	+0,45	2,770	
2018	6.7	Serpentis	—	—	—	3 58,00	17	27	57,98	—	58,04	-0,06	—	3,434	
2019	5	55 Serpentis	ξ	4 58,41	1 58,03	—	17	27	58,34	—	58,11	+0,23	—	3,430	
2020	6	2 Sagittarii	—	—	—	3 39,42	17	28	39,40	—	39,60	-0,20	—	3,597	
2021	5	57 Ophiuchi	μ	6 43,03	—	—	17	28	43,03	43,02	42,59	+0,01	+0,44	3,254	
2022	5	24 Draconis	ν^1	—	—	—	17	28	—	—	52,14	—	—	1,156	
2023	5	25 Draconis	ν^2	—	—	—	17	28	—	—	57,12	—	—	1,157	
2024	7	Sagittarii	—	—	—	2 4,81	17	29	4,77	—	4,38	+0,39	—	3,898	
2025	5	Pavonis	η	—	—	—	17	29	—	—	17,18	—	—	5,860	

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1833.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precessi- on.
	No.		No.		No.					Green.	A. S. C.	
	1831	1832	1833	1834	1835	1836						
1981	—	2 55 26,66	3 55 30,68	110 55 29,07	55 28,31	55 25,25	—	—	—	—	—	
1982	5 42 50,05	—	—	56 42 50,05	42 49,93	42 48,49	—	—	+ 0,76	+ 3,82	+ 4,268	
1983	4 12 27,84	—	—	146 12 27,84	—	12 27,22	—	—	+ 0,12	+ 1,56	4,248	
1984	—	—	2 21 37,65	145 21 37,65	—	21 27,06	—	—	—	+ 0,62	4,241	
1985	—	—	—	102 40 —	40 8,74	40 1,86	—	—	—	+ 10,59	4,237	
1986	—	—	—	—	—	—	—	—	—	—	4,229	
1987	5 31 38,08	—	4 49 29,39	114 49 29,39	49 23,70	49 20,25	—	—	+ 5,69	+ 9,14	4,203	
1988	—	2 58 12,36	2 58 12,15	52 31 38,08	31 40,78	31 31,20	—	—	— 2,70	+ 6,88	4,184	
1989	—	—	3 19 41,33	117 58 12,25	58 14,24	58 10,83	—	—	— 1,99	+ 1,42	4,110	
1990	—	—	4 16 34,62	65 19 41,33	—	19 36,56	—	—	—	+ 4,77	4,005	
1991	—	—	—	111 16 34,62	—	16 33,70	—	—	—	+ 0,92	3,950	
1992	—	—	—	—	—	—	—	—	—	—	—	
1993	5 31 51,67	—	—	114 4 —	—	4 50,07	—	—	—	—	3,934	
1994	—	4 0 41,66	1 0 43,56	150 31 51,67	—	31 50,02	—	—	—	+ 1,65	3,841	
1995	5 42 25,02	—	—	114 0 42,64	0 44,33	0 38,05	—	—	— 1,69	+ 4,59	3,825	
1996	—	—	4 34 21,31	119 42 25,02	—	42 23,57	—	—	—	+ 1,45	3,781	
1997	—	—	—	119 34 21,31	—	34 8,66	—	—	—	+ 12,65	3,756	
1998	—	—	—	—	—	—	—	—	—	—	—	
1999	6 41 40,83	—	—	66 52 —	—	52 36,46	—	—	—	—	3,739	
2000	5 42 27,30	—	2 42 27,99	102 21 —	—	21 16,50	—	—	—	—	3,695	
2001	—	—	—	94 55 —	—	55 47,30	—	—	—	—	3,686	
2002	—	—	—	52 41 40,83	41 41,58	41 34,03	—	—	— 0,75	+ 6,80	3,668	
2003	—	—	—	85 42 27,50	42 25,37	42 19,15	—	—	+ 2,13	+ 8,35	3,645	
2004	1 43 56,17	5 43 57,83	—	139 43 57,55	—	43 55,90*	—	—	—	+ 1,65	3,590	
2005	—	—	5 9 9,06	127 9 9,06	—	9 4,07	—	—	—	+ 4,99	3,518	
2006	—	—	4 46 14,69	69 46 14,69	—	46 10,18*	—	—	—	+ 4,51	3,525	
2007	—	—	4 31 36,41	89 31 36,41	—	31 31,91*	—	—	—	+ 4,50	3,467	
2008	5 49 24,60	—	—	113 49 24,60	49 28,34	49 23,41	—	—	— 3,74	+ 1,19	3,389	
2009	—	3 7 55,92	2 7 57,93	116 7 56,72	—	7 53,56*	—	—	—	+ 3,22	3,378	
2010	5 58 17,32	—	—	126 58 17,32	—	58 10,08	—	—	—	+ 7,24	3,301	
2011	—	—	5 8 35,50	87 8 35,50	—	8 33,00*	—	—	—	+ 2,50	3,236	
2012	5 45 23,21	1 45 19,94	5 45 22,74	63 45 22,69	45 26,03	45 25,00	—	—	— 3,34	— 2,31	3,147	
2013	—	1 30 22,50	4 30 23,94	128 30 23,65	—	30 14,85*	—	—	—	+ 8,80	3,062	
2014	—	3 55 19,99	1 55 21,88	111 55 20,46	—	55 15,89	—	—	—	+ 4,57	2,042	
2015	4 52 48,33	—	1 52 49,45	132 52 48,55	—	52 45,24	—	—	—	+ 3,31	3,039	
2016	—	—	4 27 55,38	61 27 55,38	—	27 54,30	—	—	—	+ 1,08	3,036	
2017	—	—	—	76 —	—	42 57,78	—	—	—	—	2,917	
2018	—	—	—	80 —	—	17 31,16	—	—	—	—	2,915	
2019	—	—	—	—	—	—	—	—	—	—	—	
2020	—	—	—	—	—	—	—	—	—	—	—	
2021	—	—	—	—	—	—	—	—	—	—	—	
2022	—	—	—	—	—	—	—	—	—	—	—	
2023	—	—	—	—	—	—	—	—	—	—	—	
2024	—	—	—	—	—	—	—	—	—	—	—	
2025	—	—	—	—	—	—	—	—	—	—	—	
2026	4 34 14,46	1 34 15,49	—	37 31 14,67	34 16 6-	34 14,71	—	—	— 2,01	— 0,04	2,912	
2027	8 18 39,49	29 18 40,55	23 18 40,56	77 18 40,43	18 39,53	18 34,38	—	—	+ 0,88	+ 6,05	2,872	
2028	—	—	—	105 —	—	27 34,50*	—	—	—	—	2,802	
2029	5 17 10,19	—	—	105 17 10,19	—	17 0,86	—	—	—	+ 9,33	2,802	
2030	—	3 48 16,67	1 48 15,07	111 48 16,27	—	48 8,58	—	—	—	+ 7,69	2,743	
2031	3 0 29,82	1 0 27,03	1 0 28,78	98 0 29,06	0 33,16	0 27,41	—	—	— 4,10	+ 1,65	2,737	
2032	—	—	2 41 56,57	34 41 56,57	—	41 51,39	—	—	—	+ 5,18	2,717	
2033	—	—	5 42 39,72	34 42 39,72	—	42 35,15	—	—	—	+ 4,57	2,710	
2034	—	—	—	122 —	—	5 46,89*	—	—	—	—	2,708	
2035	—	—	1 37 49,77	154 37 49,77	—	37 38,89*	—	—	—	+ 10,88	2,695	

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R.		Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion
									January 1, 1832				Green.	A. S.	
			No. 1831	No. 1832	No. 1833										
				s.		s.		s.	h. m.	s.	s.	s.	s.	s.	s.
2026	6	79 Herculis						2 36,06	17 30	36,09		35,37		+0,72	+2,466
2027	3	Scorpii	3 52,69		4 52,52				17 30	52,58		52,32		+0,26	4,139
2028	4.5	56 Serpentis	2 58,75		3 58,74				17 31	58,74	58,64	58,37	+0,10	+0 37	3,369
2029	7	Sagittarii						3 43,72	17 32	43,69		43,02		+0,67	3,767
2030	5	27 Draconis						1 38,85	17 32	39,02		38,45		+0,57	-0,290*
2031	7	Serpentis						4 2,08	17 33	2,06		1,57		+0,49	+3,435
2032	5	58 Ophiuchi			1 21,83			4 22,20	17 33	22,11	21,68	22,32	+0,43	-0,21	3,593
2033	7	Ophiuchi			3 16,45				17 34	16,44		16,28		+0,16	3,607
2034	6	Ophiuchi						4 26,52	17 34	26,54		26,25		+0,29	2,686
2035	4	85 Herculis	5 43,58		1 43,70				17 34	43,61	43,59	42,80	+0,02	+0,81	1,688
2036	3	60 Ophiuchi	5 10,59		2 10,79				17 35	10,74	10,66	10,34	+0,08	+0,40	2,960
2037	4.5	Scorpii	3 50,74		1 50,38				17 35	50,65		50,08		+0,57	4,185
2038	5.6	84 Herculis						4 28,02	17 36	28,05		27,51		+0,54	2,465
2039	5	3 Sagittarii	5 59,32		1 59,21				17 36	59,30	59,42	59,04	-0,12	+0,26	3,768
2040	7	Sagittarii						3 57,79	17 37	57,76		57,75		+0,01	3,743
2041	5	28 Draconis						3 55,92	17 37	56,12		56,09		+0,03	-0,367
2042	5.6	Sagittarii			3 15,93				17 38	15,91		15,95		-0,04	+3,887
2043	4	Telescopii			2 26,12			4 25,88	17 38	25,92	25,63	25,30	+0,29	+0,62	4,070
2044	7	Sagittarii						2 28,17	17 38	28,15		28,05		+0,10	3,852
2045	4	62 Ophiuchi	3 28,33		2 28,43				17 39	28,37	28,36	28,01	+0,01	+0,36	3,003
2046	4	86 Herculis	6 53,29						17 39	53,29	53,34	52,56	-0,05	+0,73	2,366
2047	7	Sagittarii							17 40			23,91			3,852
2048	6	87 Herculis			3 0,50			2 0,72	17 42	0,61		0,08		+0,53	2,427
2049	6.7	63 Ophiuchi			1 34,12			4 34,09	17 44	34,07		33,81		+0,26	3,685
2050	7	Serpentis			3 39,29			3 39,61	17 46	39,13		39,22		+0,21	3,445
2051	6	Serpentis						3 55,96	17 46	55,95		55,48		+0,47	3,162
2052	5	Sagittarii	5 18,27		4 18,38			3 18,46	17 48	18,34		18,04		+0,30	3,845
2053	5.6	89 Herculis						5 38,90	17 48	38,93		38,62		+0,31	2,415
2054	5	4 Sagittarii	5 32,26		1 32,38				17 49	32,28		32,27		+0,01	3,656
2055	4	64 Ophiuchi	5 46,84		1 46,77				17 49	46,83	46,85	46,56	-0,02	+0,27	3,297
2056	7	5 Sagittarii						5 53,91	17 49	53,88		54,52		-0,64	3,670
2057	6.7	Sagittarii						4 0,85	17 50	0,83		0,42		+0,41	3,562
2058	4	91 Herculis	3 29,68						17 50	29,68	29,72	28,99	-0,04	+0,69	2,052
2059	3.4	32 Draconis						3 37,33	17 50	37,43	37,66	36,81	-0,23	+0,62	1,020
2060	4	92 Herculis						4 14,25	17 51	14,29	14,31	13,92	-0,02	+0,37	2,320
2061	5	57 Serpentis			2 36,27				17 51	36,27		36,53		-0,26	3,154
2062	7	6 Sagittarii							17 51			38,15			3,480
2063	6	Sagittarii						1 43,85	17 51	43,83		43,77		+0,06	3,628
2064	5	66 Ophiuchi							17 51			56,49			2,970
2065	5	94 Herculis							17 52			3,85			2,291
2066	4	67 Ophiuchi						3 14,15	17 52	14,15	14,11	13,76	+0,04	+0,39	2,999
2067	6	7 Sagittarii			4 33,88				17 52	33,87		32,37		+1,50	3,670
2068	5	93 Herculis						1 34,32	17 52	34,34		33,98		+0,36	2,666
2069	6	Sagittarii							17 52			36,14			3,573
2070	6	Tauri Pon							17 52			40,82			2,921

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession	
	1831		1832		1833					Green.	A. S. C.		
	No.	"	No.	"	No.	"							
2026							65		34 57,80			+2,572	
2027	5 55	59,78					128 55 59,78		55 58,37*	+	1,41	2,552	
2028	4 46	35,83	1 46	33,72			102 46 35,41	46 40,44	46 34,57	-5,03	+	0,84	2,455
2029			4 47	37,60	4 47	35,21	117 47 36,41		47 36,47*			0,06	2,391
2030			2 45	28,55	2 45	29,78	21 45 29,16		45 28,12			1,04	2,386
2031					5 28	9,01	105 28 9,01		28 4,86*	+	4,15	2,363	
2032	3 35	34,24	1 35	31,88	1 35	34,52	111 35 33,82	35 34,72	35 27,48	-0,90	+	6,34	2,334
2033							112		6 35,04*				2,256
2034							73		57 51,39*				2,239
2035					5 54	0,95	43 54 0,95	54 2,44	53 58,83	-1,49	+	2,12	2,212
2036	7 21	24,16	1 21	23,30			85 21 24,05	21 21,66	21 16,08	+2,39	+	7,97	2,176
2037	5 3	17,21					130 3 17,21		3 3,12*	+	14,09	2,121	
2038			1 35	36,09	4 35	35,26	65 35 35,43		35 32,36	+	3,07	2,062	
2039	2 45	25,71	2 45	25,77			117 45 25,74	45 25,82	45 23,77	-0,08	+	1,97	2,020
2040			2 54	19,53	2 54	21,82	116 54 20,67		54 19,37*	+	1,30	1,935	
2041					4 9	55,04	21 9 55,04		9 52,14	+	2,90	1,926	
2042							121		38 8,23*				1,909
2043	5 58	47,46					126 58 47,46		58 45,33*	+	2,13	1,896	
2044							120 31		31 43,04*				1,891
2045	4 13	23,30			1 13	21,13	87 13 22,87	13 22,12	18 17,24	+0,75	+	5,63	1,802
2046	6 10	31,91			7 10	33,77	62 10 32,91	10 33,31	10 32,38	-0,40	+	0,53	2,604*
2047			1 29	55,78	4 29	57,89	120 29 57,47		29 53,67*	+	3,80	1,723	
2048			5 18	37,03			64 18 37,03		18 54,58	-	17,55	1,579	
2049			4 50	45,67	1 50	47,20	114 50 45,98		50 40,13*				1,360
2050			3 46	30,20	2 46	32,53	105 46 31,33		46 25,50				1,177
2051			1 2	58,93	4 2	59,75	94 2 59,58		2 57,14	+	2,44	1,065	
2052	6 13	39,06					120 13 39,06		13 34,60	+	4,46	1,034	
2053					5 55	2,63	63 55 2,63		54 58,42	+	4,21	1,000	
2054	6 47	28,50					113 47 28,50	47 32,04	47 25,99	-3,54	+	2,51	0,925
2055	5 44	46,19					99 44 46,19	44 43,21	44 33,91	+2,98	+	12,28	0,903
2056					6 15	42,26	114 15 42,26		15 41,01	+	1,25	0,893	
2057					6 19	8,52	110 19 8,52		19 4,23	+	4,29	0,884	
2058	5 43	19,35					52 43 19,35	43 21,38	43 17,17	-2,03	+	2,18	0,838
2059			6 5	54,36			33 5 54,36	5 54,63	5 56,49	-0,27	-	2,13	0,824
2260	4 43	43,90	3 43	44,96			60 43 44,35	43 42,90	43 38,05	+1,45	+	6,30	0,773
2061					5 40	16,58	93 40 16,58		40 15,29	+	1,29	0,743	
2062							107		8 27,08				0,741
2063							112		45 59,96				0,734
2064							85		48 46,88				0,713
2065					3 47	32,98	59 47 32,98		47 26,45	+	6,53	0,701	
2066					5 3	13,54	87 3 13,54	3 13,31	3 6,25	+0,23	+	7,29	0,688
2067							114		16 17,19				0,663
2068							73		13 55,23				0,658
2069							110		43 36,07				0,657
2070							83		43 2,17				0,648

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.		Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832.		Green Catal.	A. S. Catal.	Difference from		Annual Preces- sion.
				No. 1831	No. 1832	No. 1833					Green.	A. S.	
				s.	s.	s.	h. m. s.	s.	s.	s.	s.	s.	
2071	2	33 Draconis	γ	8 42,42	28 42,53	15 42,06	17 52 42,42	42,56	42,17	-0,14	+0,25	+1,388	
2072	5.6	68 Ophiuchi	k	—	—	2 13,95	17 53 13,95	—	13,54	—	+0,41	3,037	
2073	4	Aræ	θ	—	—	—	17 53 —	—	34,09	—	—	4,665	
2074	6.7	9 Sagittarii	—	—	—	—	17 53 —	—	34,50	—	—	3,673	
2075	5	69 Ophiuchi	τ	5 56,31	1 56,41	—	17 53 56,33	—	55,75	—	+0,58	3,260	
2076	5	Sagittarii	γ^1	—	—	3 17,67	17 54 17,63	—	17,99	—	+0,54	3,825	
2077	5.6	95 Herculis	B	—	1 22,55	—	17 54 22,57	—	22,16	—	+0,41	2,539	
2078	7	Sagittarii	—	—	1 52,44	2 52,58	17 54 52,52	—	52,02	—	+0,50	3,674	
2079	4	10 Sagittarii	γ^2	5 1,17	—	—	17 55 1,17	1,27	1,39	-0,10	-0,22	3,852	
2080	5	96 Herculis	Q	4 12,39	1 12,24	—	17 55 12,36	—	11,69	—	+0,67	2,560	
2081	6	97 Herculis	—	—	—	3 28,91	17 55 28,93	—	28,11	—	+0,82	2,503	
2082	4.5	70 Ophiuchi	p	5 58,07	1 58,09	3 58,25	17 56 58,13	58,02	57,94	+0,11	+0,19	3,009	
2083	7	Sagittarii	—	—	—	—	17 57 —	—	6,87	—	—	3,593	
2084	5	Draconis	—	—	—	—	17 57 —	—	57,12	—	—	2,710	
2085	5	Sagittarii	—	—	5 26,55	—	17 57 26,53	—	26,50	—	+0,03	+3,792	
2086	5	Telescopii	e	—	3 45,92	—	17 58 45,89	—	45,67	—	+0,22	4,450	
2087	5.6	98 Herculis	—	—	—	4 57,56	17 58 57,59	—	57,07	—	+0,52	2,523	
2088	6	Sagittarii	—	—	—	5 16,21	17 59 16,17	—	15,95	—	+0,22	3,863	
2089	6	71 Ophiuchi	S ¹	—	3 16,45	—	17 59 16,46	—	16,01	—	+0,42	2,863	
2090	4	72 Ophiuchi	S ²	5 23,03	1 23,14	—	17 59 23,02	23,31	22,85	-0,29	+0,17	2,843	
2091	4	103 Herculis	o	6 59,57	—	5 59,35	18 0 59,46	59,58	59,24	-0,12	-0,22	2,335	
2092	6	73 Ophiuchi	q	—	—	3 13,04	18 1 13,05	—	12,66	—	+0,39	2,975	
2093	6	Sagittarii	—	—	1 28,00	4 28,36	18 1 28,27	—	28,14	—	+0,13	3,655	
2094	5.6	102 Herculis	C	—	—	4 34,65	18 1 34,65	—	33,88	—	+0,77	2,561	
2095	6	101 Herculis	P	—	5 38,33	—	18 1 38,35	—	37,78	—	+0,57	2,581	
2096	3.4	13 Sagittarii	μ^1	5 43,26	1 43,32	1 43,01	18 3 43,23	43,22	42,79	+0,01	+0,44	3,583	
2097	6	14 Sagittarii	—	—	5 10,53	—	18 4 10,52	—	10,34	—	+0,18	3,601	
2098	6	15 Sagittarii	μ^2	—	—	5 11,78	18 5 11,76	11,79	11,42	-0,03	+0,34	3,575	
2099	6	16 Sagittarii	—	—	—	4 13,49	18 5 13,47	—	12,76	—	+0,71	3,566	
2100	5	104 Herculis	A	6 34,95	—	—	18 5 34,95	—	34,70	—	+0,25	2,254	
2101	4	Telescopii	β	1 15,77	4 15,73	—	18 6 15,71	15,56	16,05	+0,15	-0,34	4,067	
2102	7	17 Sagittarii	—	—	3 35,19	1 35,01	18 6 35,13	—	35,17	—	-0,04	3,570	
2103	5.6	Sagittarii	g	—	—	5 32,45	18 7 32,42	—	32,14	—	+0,28	3,751	
2104	7	Clypei Sob	—	—	1 37,70	4 37,48	18 7 37,50	—	37,15	—	+0,35	3,515	
2105	3.4	19 Sagittarii	δ	5 14,43	1 14,35	7 14,34	18 10 14,34	14,43	14,10	-0,09	+0,24	3,835	
2106	6	Clypei Sob	—	—	—	4 28,76	18 10 28,74	—	28,04	—	+0,70	3,447	
2107	5	105 Herculis	G	5 15,95	1 16,13	—	18 12 15,98	—	15,42	—	+0,56	2,463	
2108	6	74 Ophiuchi	r	—	1 28,82	3 29,11	18 12 29,03	—	29,21	—	-0,18	2,991	
2109	4	58 Serpentis	η	—	—	—	18 12 —	37,23	36,92	—	—	3,092*	
2110	3	20 Sagittarii	e	5 1,23	2 1,22	—	18 12 1,22	1,35	1,29	-0,13	-0,07	3,983	
2111	5	36 Draconis	—	—	2 56,12	3 55,94	18 12 56,01	—	55,40	—	+0,61	0,291	
2112	5.6	106 Herculis	—	—	5 11,70	—	18 13 11,72	—	10,92	—	+0,80	2,532	
2113	4.5	1 Lyre	—	—	2 58,45	2 58,52	18 13 58,53	58,63	58,53	-0,10	0,00	2,099	
2114	6	Sagittarii	—	—	—	3 13,84	18 14 13,80	—	13,76	—	+0,04	3,864	
2115	4.5	Telescopii	a	1 30,89	4 30,95	—	18 14 30,90	—	30,85	—	+0,05	4,451	

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession								
	No.		1831		No.					1832			Green	A. S. C.						
	1831		1832		1833															
2071	18	29	14,85	35	29	16,03	15	29	17,08	38	29	15,96	29	18,40	29	18,56	-2,44	-	2,60	+0,642
2072					4	40	58,35	88	40	58,25			40	58,68			-	0,43	0,601	
2073	5	5	32,51					140	5	32,51			5	28,87			+	3,64	0,576	
2074								114					21	17,46					0,573	
2075	5	10	17,71					98	10	17,71			10	18,59			-	0,88	0,540	
2076					5	34	45,42	119	34	45,42			34	41,16			+	4,26	0,511	
2077					1	23	49,55	68	23	49,55			23	48,79			+	0,76	0,500	
2078								114					23	51,32					0,460	
2079				3	25	2,81	1	25	5,32	120	25	3,43	24	53,25	24	58,26	+10,18	+	5,17	0,446
2080	3	9	37,34	2	9	38,24		69	9	37,70			9	34,72			+	2,98	0,428	
2081					4	4	18,13	67	4	18,13			4	17,15			+	0,98	0,404	
2082	5	27	12,93					87	27	12,93	27	14,61	27	15,21			-1,68	-	2,28	1,444*
2083				1	27	8,75	3	27	8,52	111	27	8,58		27	8,47			+	0,11	0,263
2084				1	1	13,65	4	1	12,93	13	1	13,07		1	14,34			-	1,27	0,259
2085	5	27	56,39					118	27	56,39			27	58,80			-	2,41	0,235	
2086	1	58	21,79	4				135	58	21,79			58	21,61			+	0,18	0,121	
2087					5	47	23,19	67	47	23,19			47	23,73			-	0,54	0,099	
2088					3	44	49,22	120	44	49,22			44	42,95			+	6,27	0,076	
2089					4	16	50,60	81	16	50,60			16	44,44			+	6,16	0,072	
2090	5	27	14,05					80	27	14,05	27	13,22	27	6,71			+0,83	+	7,34	+0,062
2091	5	15	18,20		3	15	19,85	61	15	18,82	15	18,50	15	15,75			+0,32	+	3,07	-0,080
2092				5	1	41,33		86	1	41,33			1	38,49			+	2,84	0,097	
2093					6	43	33,09	113	43	33,09			43	32,62			+	0,47	0,118	
2094					5	12	20,93	69	12	20,93			12	19,16			+	1,77	0,129	
2095				2	58	33,51		69	58	33,51			58	26,96			+	6,55	0,135	
2096	5	5	40,12					111	5	40,12	5	40,11	5	36,53			+0,01	+	3,59	0,314
2097					3	44	58,83	111	44	58,83			44	56,22			+	2,61	0,354	
2098				6	46	11,29		110	46	11,29	46	10,60	46	6,66			+0,69	+	4,63	0,443
2099				4	25	48,17	3	25	50,75	110	25	49,27		26	45,40			+	3,87	0,445
2100	4	37	49,17	2	37	49,20		58	37	49,18			36	46,08			+	3,10	0,481	
2101	5	48	8,20					126	48	8,20			48	0,21			+	7,99	0,536	
2102					5	35	29,59	110	35	29,59			35	27,56			+	2,03	0,566	
2103				3	5	42,08	1	5	40,65	117	5	41,72		3	39,72			+	2,00	0,648
2104					7	30	49,97	108	30	49,97			30	49,81			+	0,16	0,656	
2105	6	53	28,46					119	53	28,46	53	23,35	53	25,45			+5,11	+	3,01	0,884
2106				1	53	36,38	4	53	34,53	105	53	34,90								0,905
2107	5	37	7,44					65	37	7,44			37	0,44			+	7,00	1,064	
2108				3	41	27,66		86	41	27,66			41	23,39			+	4,27	1,083	
2109	4	56	4,14		1	56	6,46	92	56	4,60	56	8,36	56	2,93			-3,76	+	1,67	0,414*
2110	5	27	18,19					124	27	18,19			27	5,18			+	13,01	1,127	
2111				5	39	34,09		25	39	34,09			39	29,43			+	6,66	1,129	
2112					6	6	11,65	68	6	11,65			6	10,22			+	1,43	1,115	
2113				6	0	23,12		54	0	23,12	0	23,39	0	21,98			-0,27	+	1,14	1,215
2114					5	50	0,67	120	50	0,67			49	55,29			+	5,38	1,232	
2115	4	3	6,65					136	3	6,65			2	54,74			+	11,91	1,255	

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	NAMES.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832.			Green. Catal.	A. S. Catal.	Difference from		Annual Preces- sion.
			No. 1831	No. 1832	No. 1833	h. m. s.					Green.	A. S.	
2116	6	107 Herculis <i>t</i>	s.	s.	4	27,92 18 14 27,96			s.	s.	s.	s.	s.
2117	5.6	Herculis			3	8,61 18 15 8,64				27,58		+0,38	+2,335
2118	6	21 Sagittarii		1	20,51	3 20,96 18 15 20,83							2,497
2119	5	Pavonis <i>v</i>				18 15 —				20,42		+0,41	3,570
2120	5	Telescopii <i>z</i>	1	52,22		18 15 52,22				40,89			5,615
										51,68		+0,54	4,609
2121	5.6	109 Herculis <i>F</i>				2 32,46 18 16 32,48				32,48		0,00	2,538
2122	4	22 Sagittarii <i>λ</i>	6	36,22		3 36,34 18 17 36,25		36,17		36,13	+0,08	+0,12	3,704
2123	6	Sagittarii				1 8,35 18 18 8,33				8,04		+0,29	3,495
2124	5.6	59 Serpentis <i>d</i>		5	37,01	18 18 37,01				36,72		+0,29	3,066
2125	5	Clypei Sob	6	37,28		18 19 37,28							3,416
2126	6	Sagittarii <i>v¹</i>		2	3,78	18 20 3,76				3,74		+0,02	3,935
2127	6.7	Clypei Sob				18 20 —							3,417
2128	6	Sagittarii				3 19,40 18 20 19,38				19,10		+0,28	3,522
2129	6	60 Serpentis <i>c</i>		1	56,68	3 56,82 18 20 56,79				55,83		+0,96	3,117
2130	7	Sagittarii				3 27,85 18 21 27,83				27,91		-0,08	3,526
2131	5	39 Draconis <i>b</i>	4	27,59		18 21 27,59				27,39		+0,20	0,880
2132	6	Sagittarii				3 35,79 18 21 35,77				35,49		+0,28	3,513
2133	7	Sagittarii				3 59,81 18 21 59,79				59,49		+0,30	3,532
2134	6	Herculis <i>H</i>				4 37,85 18 22 37,88				37,31		+0,57	2,483
2135		Sagittarii <i>v²</i>				3 56,44 19 22 56,40				56,20		+0,10	3,936
2136	7	Sagittarii				18 22 —				56,79			3,666
2137	6.7	Clypie Sob <i>s¹</i>				18 23 —				7,63			3,424
2138	4	Pavonis <i>z</i>				18 23 —				23,81			7,054
2139	6	61 Serpentis <i>e</i>		4	16,76	18 23 16,76				16,86		-0,10	3,094
2140	7	Sagittarii				18 23 —				19,44			3,512
2141	6.7	24 Sagittarii		1	37,90	18 23 37,89				37,68		+0,21	3,664
2142	6.7	Clypie Sob <i>s²</i>				18 24 —				2,65			3,423
2143	4.5	44 Draconis <i>x</i>		3	4,98	1 3,71 18 24 4,73		4,98		4,13	-0,25	+0,60	-1,072*
2144	7	Sagittarii				3 29,09 18 25 29,07				28,94		+0,13	+3,536
2145	6	Clypie Sob <i>q</i>				3 42,28 18 25 42,27				42,06		+0,21	3,329
2146	6	Herculis				3 46,74 18 25 46,77				46,60		+0,17	2,491
2147	5.6	1 Aquilæ <i>m</i>				5 4,01 18 26 4,00				3,50		+0,50	3,263
2148	3	23 Ursæ Min <i>δ</i>	10	29,14	73	29,42	18 26 29,54	30,21		22,21	-0,67	+7,33	-19,168
2149	7	Sagittarii				4 13,44 18 27 13,42				12,83		+0,59	+3,534
2150	6.7	Sagittarii				3 50,91 18 27 50,89				50,65		+0,24	3,591
2151	7	Clypie Sob				18 28 —				6,13			+3,483
2152	6	Sagittarii				18 28 —				17,57			3,649
2153	6	Herculis				18 28 —				30,54			2,492
2154	6.7	Sagittarii				18 28 —				52,48			3,582
2155	5	Pavonis	1	56,33	1	56,59	18 28 56,43			57,39		-0,96	5,914
2156	1	3 Lyrae <i>α</i>	15	15,21	52	15,18	45 14,96 18 31 15,13	15,14		14,79	-0,01	+0,34	2,010
2157	6	26 Sagittarii				4 36,80 18 31 36,77				36,63		+0,14	3,657
2158	5	Pavonis <i>θ</i>	1	5,35		2 5,68 18 32 5,46				9,31		-3,85	5,938
2159	7	Clypei Sob				4 8,53 18 32 8,51				8,10		+0,41	3,416
2160	5	2 Aquilæ <i>ο</i>	6	4,60		18 33 4,60				4,41		+0,19	3,282

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N.P.D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession		
	No.	1831	No. 1832				No. 1833	Green.		A. S. C.	
2116				5 12 15,99	61 12 15,99		12 13,89	+	2,10	—1,257	
2117				2 47 38,56	66 47 38,56		47 45,24	—	6,68	1,321	
2118					110 37 —		37 20,05			1,330	
2119			2 22 16,66	1 22 15,06	152 22 16,13		22 9,43	+	6,70	1,354	
2120				4 9 2,41	139 9 2,41		8 27,88	+	34,53	1,373	
2121				4 18 0,94	68 18 0,94		17 55,88	+	5,06	1,438	
2122	5 30 24,35				115 30 24,35	30 20,26	30 21,16	+4,09	+	3,19	1,527
2123					107 46 —		46 51,56			1,574	
2124			2 53 52,64	2 53 54,11	89 53 53,37		53 42,13	+	11,24	1,617	
2125	6 39 56,36			3 39 57,54	104 39 56,75		39 54,19	+	2,56	1,707	
2126				5 5 25,45	123 5 25,45		5 21,46	+	3,99	1,741	
2127					104 —		41 8,52			1,759	
2128				4 49 35,10	108 49 35,10		49 34,14	+	0,96	1,764	
2129			4	4 5 14,99	92 5 14,99		5 7,92	+	7,07	1,819	
2130				2 0 24,19	109 0 24,19		0 19,14	+	5,05	1,864	
2131	6 17 40,86				31 17 40,86		17 39,66	+	1,20	1,871	
2132					108 —		30 29,78			1,875	
2133				1 14 6,46	109 14 6,46		14 2,18	+	4,28	1,910	
2134			1 14 21,76	4 14 23,81	66 14 23,40		14 23,64	—	0,24	1,968	
2135					123 —		7 51,25			1,991	
2136				5 13 25,31	114 13 25,31		13 22,56	+	2,75	1,993	
2137				2 58 49,44	104 58 49,44		58 43,53	+	5,91	2,009	
2138				2 33 19,91	161 33 19,91		33 15,20	+	4,71	2,022	
2139					91 —		6 51,33			2,024	
2140					108 —		28 55,76			2,026	
2141			1 8 56,01	2 8 55,73	114 8 55,82		8 50,38	+	5,44	2,052	
2142				2 58 17,66	104 58 17,66		58 11,78	+	5,88	2,089	
2143	5 20 30,57		4 20 31,34		17 20 30,91	20 30,10	20 28,93	+0,81	+	1,08	2,104
2144			1 23 30,06	4 23 31,65	109 23 31,33		23 28,46	+	2,87	2,214	
2145			1 6 1,65	3 6 2,03	101 6 1,94		5 59,94	+	2,00	2,233	
2146				3 30 9,21	66 30 9,21		30 10,27	—	1,06	2,242	
2147				5 21 12,90	98 21 12,90		21 9,17	+	3,73	2,265	
2148	5 24 46,07		1 24 44,20		3 24 45,76	24 48,50	24 48,92	—2,74	—	3,16	2,357
2149				2 20 21,44	109 20 21,44		20 21,95	—	0,51	2,365	
2150					111 —		31 35,13			2,419	
2151					107 —		21 55,14			2,441	
2152					113 —		38 17,60			2,457	
2153					66 —		31 28,47			2,480	
2154				3 10 56,53	111 10 56,53		10 50,67	+	5,86	2,508	
2155	5 0 56,67				155 0 56,67		1 19,74	—	23,07	2,508	
2156	40 22 5,92		65 22 5,72	51 22 5,78	51 22 5,78	22 5,85	22 4,22	—0,07	+	1,56	2,718
2157					113 —		58 48,32			2,745	
2158				1 14 7,22	155 14 7,22		14 33,00	—	25,78	2,786	
2159				1 42 55,65	104 42 55,65		42 47,99	+	7,66	2,791	
2160	5 12 20,22		1 12 17,96		99 12 19,85		12 15,06	+	4,79	2,873	

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832.			Green Catal.	A. S. Catal.	Difference from		Annual Preces- sion.
			No. 1831	No. 1832	No. 1833						Green.	A. S.	
				s.	s.		s.	h. m. s.	s.	s.	s.	s.	s.
2161	5.6	3 Aquilæ	<i>n</i>	—	4 22,23	—	—	18 34 22,23	—	22,32	—	—0,09	+3,264
2162	6	Sagittarii	<i>s</i>	—	—	5	30,00	18 34 29,97	—	29,66	—	+0,31	3,689
2163	4.5	27 Sagittarii	<i>φ</i>	3 9,61	4 9,58	—	—	18 35 9,58	9,55	9,89	+0,03	—0,31	3,745
2164	6	28 Sagittarii	—	—	—	7	12,77	18 36 12,75	12,72	12,85	+0,03	—0,10	3,616
2165	5.6	4 Aquilæ	—	—	—	4	21,30	18 36 21,30	—	21,23	—	+0,07	3,024
2166	5	Pavonis	<i>λ</i>	—	5 37,93	—	—	18 36 37,86	—	39,42	—	—1,56	5,588
2167	5.6	6 Aquilæ	<i>h</i>	—	5 15,58	—	—	18 38 15,57	—	15,56	—	+0,01	3,182
2168	5	110 Herculis	<i>K</i>	6 25,88	1 26,13	—	—	18 38 25,91	—	25,46	—	+0,45	2,578
2169	5	4 Lyræ	<i>e</i>	2 46,58	—	—	—	18 38 46,58	—	45,89	—	+0,69	1,982
2170	5	5 Lyræ	—	2 48,64	5 48,91	—	—	18 38 48,85	—	47,72	—	+1,13	1,985
2171	5	6 Lyræ	<i>ξ</i> ¹	—	—	4	58,98	18 38 59,00	—	58,72	—	+0,28	2,060
2172	5	46 Draconis	<i>C</i>	—	—	5	22,28	18 39 22,39	22,57	22,20	—0,18	+0,19	1,162
2173	5.6	111 Herculis	<i>M</i>	—	—	5	26,30	18 39 26,32	—	36,10	—	+0,22	2,640
2174	6	29 Sagittarii	<i>r</i>	—	—	5	42,56	18 39 42,54	—	41,85	—	+0,69	3,560
2175	6	30 Sagittarii	—	—	—	3	44,54	18 40 44,52	—	44,35	—	+0,17	3,609
2176	6	31 Sagittarii	—	—	6 2,68	—	—	18 42 2,67	—	2,35	—	+0,32	3,602
2177	3	10 Lyræ	<i>β</i>	9 52,84	27 52,86	24	52,61	18 43 52,78	52,79	52,21	—0,01	+0,57	2,211
2178	6	33 Sagittarii	—	—	6 57,61	—	—	18 43 57,60	—	57,66	—	—0,06	3,586
2179	5	32 Sagittarii	<i>ν</i> ¹	7 1,57	1 1,56	1	1,57	18 44 1,56	1,51	1,27	+0,05	+0,29	3,623
2180	3	34 Sagittarii	<i>σ</i>	5 50,74	—	—	—	18 44 50,74	50,71	50,73	+0,03	+0,01	3,722
2181	5	35 Sagittarii	<i>ν</i> ²	3 57,57	—	1	57,38	18 44 57,52	57,70	57,69	—0,18	—0,17	3,621
2182	5.6	112 Herculis	<i>N</i>	—	—	3	5,85	18 45 5,83	—	5,36	—	+0,47	2,559
2183	6	Sagittarii	—	—	—	2	50,49	18 45 50,47	—	50,04	—	+0,43	3,634
2184	6	62 Serpentis	—	—	—	3	16,33	18 47 16,34	—	15,96	—	+0,38	2,921
2185	6	36 Sagittarii	<i>ξ</i> ¹	1 21,64	2 21,56	3	21,29	18 47 21,42	21,35	21,01	+0,07	+0,41	3,567
2186	5	113 Herculis	<i>O</i>	5 39,81	—	—	—	18 47 39,81	—	39,44	—	+0,37	2,528
2187	5	37 Sagittarii	<i>ξ</i> ²	—	1 41,90	—	—	18 47 41,89	42,20	42,10	—0,31	—0,21	3,578
2188	4.5	63 Serpentis	<i>θ</i> ¹	—	—	3	52,26	18 47 52,27	52,14	51,91	+0,13	+0,36	2,977
2189	5	Serpentis	<i>θ</i> ²	—	—	3	53,58	18 47 53,59	53,50	53,33	+0,09	+0,26	2,977
2190	5.6	9 Aquilæ	<i>h</i>	—	6 3,98	—	—	18 48 3,97	—	4,23	—	—0,26	3,207
2191	5	12 Lyræ	<i>δ</i> ²	—	5 37,99	—	—	18 48 38,02	—	37,28	—	+0,74	2,095
2192	5	47 Draconis	<i>o</i>	—	—	1	43,20	18 48 43,32	42,91	42,45	+0,41	+0,87	0,878
2193	6	64 Serpentis	—	—	—	1	50,05	18 48 50,06	—	49,62	—	+0,44	3,015
2194	6	10 Aquilæ	—	—	—	5	4,28	18 51 4,30	—	4,05	—	+0,25	2,751
2195	6.7	Sagittarii	—	1 30,20	5 30,09	—	—	18 51 30,10	—	29,83	—	+0,27	3,619
2196	3.4	38 Sagittarii	<i>ξ</i>	6 55,20	—	—	—	18 51 55,20	55,26	55,02	—0,06	+0,18	3,823
2197	7	Sagittarii	—	—	—	4	57,37	18 51 57,35	—	57,03	—	+0,32	3,430
2198	3.4	13 Aquilæ	<i>e</i>	—	6 0,11	—	—	18 52 0,13	59,99	59,22	+0,14	+0,91	2,723
2199	6.7	Sagittarii	—	—	—	3	10,76	18 52 10,73	—	10,53	—	+0,20	3,677
2200	3	14 Lyræ	<i>γ</i>	5 39,55	8 39,65	17	39,60	18 52 39,63	39,60	39,02	+0,03	+0,61	2,240
2201	5.6	12 Aquilæ	<i>i</i>	—	—	3	42,62	18 52 42,61	—	42,54	—	+0,07	3,204
2202	6	Sagittarii	<i>S</i>	—	—	2	37,57	18 53 37,53	—	37,49	—	+0,04	3,858
2203	6	48 Draconis	—	1 53,88	2 54,13	—	—	18 53 54,08	—	53,75	—	+0,33	1,021
2204	7	14 Aquilæ	<i>g</i>	—	—	3	3,77	18 54 3,76	—	3,72	—	+0,04	3,157
2205	4.5	39 Sagittarii	<i>o</i>	4 36,44	1 36,52	2	36,83	18 54 36,56	36,18	36,68	+0,38	—0,12	3,592

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession	
	No.		No.		No.					Green	A. S. C.		
	1831		1832		1833								
	"		"		"		"	"	"	"	"	"	
2161	—		—		5 25 58,41	98 25 58,41		26 0,73	—	2,32	—	2,985	
2162	—		—		4 10 20,57	115 10 20,57		10 11,06	—	9,51	—	2,995	
2163	5 9 17,41		—		—	117 9 17,41	9 16,13	9 14,84	+1,28	+	2,57	3,052	
2164	—		1 33 31,30		4 33 33,51	112 33 33,07	33 37,34	33 31,77	-4,27	+	1,30	3,143	
2165	—		—		5 6 11,71	88 6 11,71		6 9,53	—	+	2,18	3,157	
2166	—		5 21 58,75		—	152 21 58,75		21 55,87	—	+	2,88	3,176	
2167	—		—		5 55 18,41	94 55 18,41		55 9,07	—	+	9,34	3,321	
2168	4 36 32,80		1 36 35,93		—	69 36 33,42		36 27,91	—	+	5,51	3,337	
2169	5 30 5,43		3 30 6,22		—	50 30 5,73		29 59,00	—	+	6,73	3,368	
2170	6 33 34,28		—		—	50 33 34,28		33 28,68	—	+	5,60	3,371	
2171	—		5 33 53,87		—	52 33 53,87		33 53,17	—	+	0,70	3,386	
2172	—		—		6 37 44,77	34 37 44,77	37 41,84	37 37,16	+2,93	+	7,61	3,423	
2173	—		—		4 59 58,16	71 59 58,16		59 54,10	—	+	4,06	3,438	
2174	—		—		5 30 29,33	110 30 29,33		30 23,80	—	+	5,53	3,444	
2175	—		—		5 20 46,88	112 20 46,88		20 42,94	—	+	3,94	3,534	
2176	—		3 6 37,85		1 6 56,61	112 6 37,54		6 31,61	—	+	5,93	3,646	
2177	7 49 38,81		36 49 40,46		22 49 39,36	56 49 39,90	49 39,04	49 35,84	+0,86	+	4,06	3,807	
2178	—		—		6 33 21,18	111 33 24,18		33 21,38	—	+	2,80	3,811	
2179	5 56 33,67		—		—	112 56 33,67	56 34,58	56 32,96	-0,91	+	0,71	3,816	
2180	5 29 46,40		—		—	116 29 46,40	29 47,68	29 47,09	-1,28	—	0,69	3,886	
2181	2 52 19,86		3 52 20,45		—	112 52 20,21	52 22,08	52 17,06	-1,87	+	3,15	3,896	
2182	—		—		5 46 12,66	68 46 12,66		46 13,48	—	—	0,82	3,911	
2183	—		2 22 40,61		3 22 42,66	113 22 41,84		22 42,95	—	—	1,11	3,971	
2184	—		—		5 35 15,04	83 35 15,04		35 12,99	—	+	2,05	4,096	
2185	—		—		4 52 5,69	110 52 5,69	52 5,61	51 59,30	+0,08	+	6,39	4,101	
2186	5 33 40,20		—		—	67 33 40,20		33 40,09	—	+	0,11	4,131	
2187	—		—		4 19 9,40	111 19 9,40	18 59,92	19 6,25	+9,48	+	3,15	4,131	
2188	—		3 0 31,53		2 0 32,64	86 0 31,97	0 31,68	0 22,63	+0,29	+	9,34	4,147	
2189	—		1 0 34,06		—	86 0 34,06	0 36,58	0 24,41	-2,52	+	9,65	4,149	
2190	—		—		1 3 26,01	96 3 26,01		3 19,83	—	+	6,18	4,164	
2191	5 18 34,70		—		—	53 18 34,70		18 34,56	—	+	0,14	4,214	
2192	—		6 48 54,21		—	30 48 54,21	48 54,18	48 54,83	+0,03	—	0,62	4,225	
2193	—		—		5 40 41,49	87 40 41,49		40 37,51	—	+	3,98	4,229	
2194	—		—		5 18 47,27	76 18 47,27		18 35,36	—	+	11,91	4,421	
2195	—		—		4 55 22,50	112 55 22,50		55 26,93	—	—	4,43	4,455	
2196	5 6 44,50		3 6 44,98		—	120 6 44,66	6 38,79	6 40,58	+5,87	+	4,08	4,491	
2197	—		—		5 30 43,61	105 30 43,61		30 41,65	—	+	1,96	4,495	
2198	3 9 16,71		2 9 19,60		—	75 9 17,87	9 12,30	9 9,63	+5,57	+	8,24	4,500	
2199	—		—		5 4 16,96	115 4 16,96		4 5,42	—	+	11,54	4,513	
2200	5 32 7,89		25 32 7,61		17 32 8,86	57 32 8,21	32 9,45	32 6,27	-1,24	+	1,94	4,558	
2201	—		—		3 58 6,28	95 58 6,28		57 59,52	—	+	6,76	4,560	
2202	—		—		—	121 17 —		17 0,80	—	—	—	4,636	
2203	—		6 24 19,69		—	32 24 19,69		24 21,67	—	—	1,98	4,667	
2204	—		—		5 56 5,34	93 56 5,34		56 0,92	—	+	4,42	4,675	
2205	—		5 58 45,41		—	111 58 45,41	58 45,24	58 39,49	+0,17	+	5,92	4,721	

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	NAMES.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832.	Green. Catal.	A. S. Catal.	Difference from		Annual Preces- sion.
			No. 1831	No. 1832	No. 1833				Green.	A. S.	
2206	5	Cor. Aust. γ	1 4,40	2 3,42	—	18 55 3,75	—	2,92	—	+0,83	+4,057
2207	6	15 Aquilæ h	—	—	3 5,56	18 56 5,55	—	5,15	—	+0,40	3,165
2208	4	40 Sagittarii τ	1 26,82	—	3 27,00	18 56 26,92	26,92	26,53	0,00	+0,39	3,755
2209	5	52 Draconis v	—	—	1 24,32	18 56 24,55	—	24,42	—	+0,13	-0,710
2210	5	Cor. Aust. δ	2 38,68	—	—	18 56 38,68	—	38,63	—	+0,05	+4,185
2211	6.7	Sagittarii	—	5 51,90	—	18 56 51,89	—	51,78	—	+0,11	3,611
2212	7	Sagittarii	—	—	5 56,01	18 56 55,98	—	55,75	—	+0,23	3,783
2213	3	16 Aquilæ λ	1 19,96	5 20,00	—	18 57 19,99	19,99	19,49	0,00	+0,50	3,184
2214	3	17 Aquilæ ζ	14 41,42	28 41,48	21 41,38	18 57 41,44	41,36	40,87	+0,08	+0,57	2,754
2215	7	Sagittarii	—	—	3 58,52	18 57 58,50	—	58,34	—	+0,16	3,669
2216	5	Cor. Aust. α	1 2,17	2 2,48	—	18 58 2,36	—	1,66	—	+0,70	4,085
2217	6.7	Sagittarii	1 24,44	—	2 24,32	18 58 24,36	—	23,79	—	+0,57	3,527
2218	5	Cor. Aust. β	1 27,87	—	—	18 58 27,87	—	27,67	—	+0,20	4,138
2219	5.6	18 Aquilæ	—	—	3 4,30	18 59 4,31	—	3,49	—	+0,82	2,821
2220	4.5	41 Sagittarii π	1 46,22	3 46,23	2 46,01	18 59 46,15	46,20	46,07	-0,05	+0,08	3,571
2221	7	Sagittarii	—	—	2 53,61	18 59 53,59	—	53,15	—	+0,44	3,540
2222	6	19 Aquilæ	—	—	3 46,46	19 0 46,47	—	45,82	—	+0,65	2,937
2223	7	Sagittarii	—	6 21,84	—	19 2 21,82	—	21,59	—	+0,23	3,410
2224	6	Sagittarii	—	—	5 25,60	19 2 25,58	—	25,28	—	+0,30	3,586
2225	6.7	Sagittarii	—	—	5 52,82	19 2 52,79	—	52,45	—	+0,34	3,701
2226	5	20 Aquilæ B	5 34,08	1 33,99	—	19 3 34,06	—	33,53	—	+0,53	3,254
2227	6	42 Sagittarii ψ	—	4 14,07	2 14,12	19 5 14,08	14,17	14,32	-0,09	-0,24	3,681
2228	6	21 Aquilæ C	—	5 14,61	—	19 5 14,61	—	14,29	—	+0,32	3,023
2229	6.7	Sagittarii	—	1 19,13	4 19,01	19 5 19,00	—	18,27	—	+0,73	3,651
2230	5	43 Sagittarii d	8 48,24	—	—	19 7 48,22	48,20	47,88	+0,02	+0,34	3,514
2231	6	1 Sagittæ	—	—	5 2,96	19 8 2,98	—	2,54	—	+0,44	2,579
2232	5	20 Lyræ η	3 2,27	—	—	19 8 2,27	—	2,00	—	+0,27	2,038
2233	6	22 Aquilæ	—	5 12,33	—	19 8 12,34	—	11,61	—	+0,73	2,967
2234	5	53 Draconis n	2 29,45	—	—	19 8 29,45	—	28,92	—	+0,53	1,133
2235	5	1 Vulpeculæ	6 59,82	—	—	19 8 59,82	—	59,68	—	+0,14	2,576
2236	6	Sagittarii	—	—	—	19 9 —	—	25,31	—	—	3,430
2237	5	25 Aquilæ ω^1	1 56,20	4 56,04	—	19 9 56,08	—	55,78	—	+0,30	2,813
2238	6	23 Aquilæ	—	—	3 59,68	19 9 59,68	—	58,69	—	+0,99	3,051
2239	6	24 Aquilæ	—	—	4 15,14	19 10 15,17	—	15,12	—	+0,05	3,067
2240	4	Sagittarii β^1	—	—	3 32,69	19 10 32,63	—	32,68	—	-0,05	4,331
2241	6	Sagittarii	—	—	3 33,85	19 10 33,83	—	33,69	—	+0,14	3,601
2242	5	21 Lyræ θ	—	—	3 31,95	19 10 32,00	—	31,40	—	+0,60	2,079
2243	5	54 Draconis p	—	2 55,03	—	19 10 55,08	—	54,84	—	+0,24	1,077
2244	4	Sagittarii β^2	—	—	—	19 11 —	—	4,34	—	—	4,346
2245	6	26 Aquilæ f	—	—	2 34,74	19 11 34,73	—	34,57	—	+0,16	3,196
2246	7	Sagittarii	—	—	—	19 11 —	—	46,09	—	—	3,519
2247	6	28 Aquilæ A	—	—	—	19 11 —	—	49,20	—	—	2,796
2248	5	44 Sagittarii ρ^1	1 55,38	7 55,60	—	19 11 55,56	—	55,69	-0,13	—	3,485
2249	6	27 Aquilæ d	—	—	—	19 11 —	—	55,28	—	—	3,095
2250	5.6	45 Sagittarii ρ^2	—	—	—	19 12 —	—	3,41	—	—	3,496

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
2206	5 17	43,67		—		—	127 17	43,67	17 30,07		+ 13,60	—4,756
2207		—		—	6 16	26,50	94 16	26,50	16 21,72		+ 4,78	4,847
2208	3 54	24,42	2 54	24,58		—	117 54	24,48	54 23,84	—0,50	+ 0,64	4,876
2209		—	5 55	43,06		—	18 55	43,06	55 41,38		+ 1,68	4,885
2210		—		—	5 44	53,05	130 44	53,05	44 46,12		+ 6,93	4,892
2211		—		—	1 44	47,45	112 44	47,45	44 46,71		+ 0,74	4,912
2212		—		—		—	118	—	53 13,06		—	4,917
2213	5 7	42,77		—		—	95 7	42,77	7 32,39	+4,56	+ 10,38	4,952
2214	13 22	46,99	27 22	48,03	21 22	47,79	76 22	47,68	22 38,58	—0,24	+ 9,10	4,983
2215		—		—		—	114	—	54 39,74		—	5,006
2216	3 9	21,28	2 9	22,66		—	123 9	21,83	9 17,99		+ 3,84	5,009
2217		—		—		—	109 33	—	—		—	5,042
2218		—	6 35	55,52		—	129 35	55,52	35 48,36		+ 7,16	5,046
2219		—	1 10	52,56	4 10	51,97	79 10	52,09	10 48,71		+ 3,38	5,100
2220	5 16	55,87		—		—	111 16	55,87	16 58,02	—2,15	+ 1,90	5,158
2221		—	1 3	44,36	4 3	46,65	110 3	46,19	3 34,56		+ 11,63	5,168
2222		—		—	6 11	3,11	84 11	3,11	10 58,26		+ 4,85	5,244
2223		—	3 51	22,05	2 51	20,53	104 51	21,44	51 16,89		+ 4,55	5,377
2224		—		—	5 55	42,19	111 55	42,19	55 41,45		+ 0,74	5,382
2225		—	3 10	47,91	3 10	47,58	116 10	47,74	10 46,90		+ 0,84	5,419
2226	5 12	44,93	1 12	44,72		—	98 12	44,90	12 42,97		+ 1,93	5,478
2227		—	7 32	17,95		—	115 32	17,95	32 13,30	+1,79	+ 4,65	5,618
2228		—	5 59	5,09		—	87 59	5,09	58 59,51		+ 5,58	5,620
2229		—		—	4 27	29,73	114 27	29,73	27 20,32		+ 9,41	5,624
2230	5 14	37,89		—		—	109 14	37,89	14 38,43	—0,54	+ 1,79	5,833
2231		—	1 3	18,88	4 3	20,71	69 3	20,34	3 16,29		+ 4,05	5,856
2232	5 8	18,44	1 8	19,50		—	51 8	18,61	8 16,91		+ 1,70	5,857
2233		—		—	5 27	20,92	85 27	20,92	27 12,21		+ 8,71	5,868
2234	3 25	26,68	2 25	24,00		—	33 25	25,62	25 28,66		— 3,04	5,897
2235		—	6 53	59,38		—	68 53	59,38	54 0,50		— 1,12	5,936
2236		—		—	5 49	18,06	105 49	18,06	49 9,70		+ 8,36	5,429*
2237	5 42	2,26		—		—	78 42	2,26	41 57,53		+ 4,73	6,013
2238		—		—	5 12	49,18	89 12	49,18	12 47,18		+ 2,00	6,017
2239		—		—	5 57	19,66	89 57	19,66	57 34,98		— 15,32	6,039
2240	5 45	56,29		—		—	134 45	56,29	45 48,76		+ 7,53	6,060
2241		—		—	3 42	24,52	112 42	24,52	42 23,89		+ 0,63	6,064
2242		—	7 9	41,62		—	52 9	41,62	9 37,48		+ 4,14	6,065
2243		—	3 34	56,05		—	32 34	56,05	34 55,01		+ 1,04	6,100
2244	2 6	24,28		—		—	135 6	24,28	6 17,36		+ 6,92	6,104
2245		—		—	3 43	24,33	95 43	24,33	43 14,86		+ 9,47	6,149
2246		—		—	5 32	29,72	109 32	29,72	32 30,12		— 0,40	6,164
2247		—		—	5 55	43,72	77 55	43,72	55 43,02		+ 0,70	6,171
2248		—		—		—	108	—	9 18,19		—	6,178
2249		—		—		—	91	—	11 47,96		—	6,178
2250		—		—		—	108	—	36 36,64		—	6,189

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832.			Green Catal.	A. S. Catal.	Difference from		Annual Preces- sion.
			No. 1831	No. 1832	No. 1833						Green.	A. S.	
			s.	s.	s.	h. m. s.		s.	s.	s.	s.	s.	s.
2251	5.6	46 Sagittarii <i>v</i>	—	—	2 6,42	19 12 6,40	—	—	5,97	—	—	+0,43	+3,439
2252	4.5	Sagittarii <i>a</i>	—	3 14,39	—	19 12 14,36	—	—	13,70	—	—	+0,66	4,170
2253	3	57 Draconis <i>δ</i>	10 29,65	20 29,71	—	19 12 29,75	29,71	—	29,15	+0,04	—	+0,60	0,023
2254	4	1 Cygni <i>κ</i>	5 12,97	1 13,04	—	19 13 12,99	13,10	—	12,56	—0,11	—	+0,43	1,381
2255	6	Sagittarii <i>p</i>	—	2 1,87	2 1,59	19 14 1,70	—	—	1,21	—	—	+0,49	3,747
2256	6	47 Sagittarii <i>χ</i> ¹	—	—	3 2,78	19 15 2,75	—	—	2,78	—	—	—0,03	3,654
2257	6.7	48 Sagittarii <i>χ</i> ²	—	—	2 9,69	19 15 9,66	—	—	9,42	—	—	+0,24	3,651
2258	6	49 Sagittarii <i>χ</i> ³	—	—	3 19,14	19 15 19,11	—	—	19,42	—	—	—0,31	3,639
2259	6	3 Vulpeculæ	—	—	3 58,25	19 15 58,28	—	—	57,56	—	—	+0,72	2,453
2260	6.7	50 Sagittarii	—	5 17,80	—	19 16 17,78	—	—	17,81	—	—	—0,03	3,581
2261	6	Sagittarii <i>o</i>	—	—	3 18,94	19 16 18,90	—	—	18,69	—	—	+0,21	3,799
2262	6	Sagittarii	—	3 37,54	3 37,25	19 16 37,36	—	—	36,91	—	—	+0,45	3,415
2263	6	2 Sagittæ	—	—	3 49,60	19 16 49,62	—	—	48,86	—	—	+0,76	2,691
2264	7	Sagittarii	—	—	1 52,48	19 16 52,46	—	—	52,13	—	—	+0,33	3,403
2265	5	31 Aquilæ <i>b</i>	5 57,65	1 57,72	—	19 16 57,66	—	—	57,19	—	—	+0,47	2,871*
2266	3.4	30 Aquilæ <i>δ</i>	6 1,67	24 1,74	12 1,67	19 17 1,71	1,59	—	1,33	+0,12	—	+0,38	3,007
2267	5.6	2 Cygni <i>a</i>	—	—	1 30,13	19 17 30,17	—	—	29,72	—	—	+0,45	2,361
2268	5.6	32 Aquilæ <i>ν</i>	—	—	3 55,65	19 17 55,65	—	—	55,38	—	—	+0,27	3,068
2269	6	4 Vulpeculæ	—	—	—	19 18 —	—	—	6,13	—	—	—	2,623
2270	6	Sagittarii	—	—	2 18,76	19 18 18,74	—	—	18,59	—	—	+0,15	3,494
2271	6	3 Cygni	—	—	—	19 18 —	—	—	28,50	—	—	—	2,491
2272	4.5	60 Draconis <i>τ</i>	—	—	—	19 18 —	44,56	—	43,82	—	—	—	—1,057
2273	7	Sagittarii <i>Q</i>	—	2 28,27	2 28,20	19 19 28,20	—	—	28,34	—	—	—0,14	+3,717
2274	4	58 Draconis <i>π</i>	4 47,13	—	—	19 19 47,13	47,60	—	47,06	—0,47	—	+0,07	0,326
2275	6	35 Aquilæ <i>c</i>	—	4 31,49	—	19 20 31,49	—	—	30,84	—	—	+0,65	3,033
2276	6	Sagittarii	—	5 55,51	—	19 20 55,50	—	—	55,30	—	—	+0,20	3,566
2277	4	6 Vulpeculæ <i>b</i>	5 43,03	1 42,95	7 42,83	19 21 42,93	43,05	—	42,30	—0,12	—	+0,63	2,502
2278	6	36 Aquilæ <i>e</i>	—	3 52,84	—	19 21 52,83	—	—	51,45	—	—	+1,38	3,137
2279	5.6	8 Vulpeculæ	—	—	5 56,31	19 21 56,34	—	—	55,93	—	—	+0,41	2,500
2280	7	Sagittarii	—	—	3 11,58	19 22 11,55	—	—	11,26	—	—	+0,29	3,743
2281	3	6 Cygni <i>β</i> ¹	5 56,89	9 56,94	—	19 23 56,93	56,84	—	56,47	+0,09	—	+0,46	2,416
2282	7	Sagittarii	—	—	3 25,00	19 24 24,97	—	—	24,71	—	—	+0,26	3,629
2283	6	Vulpeculæ	—	—	4 44,37	19 24 44,39	—	—	44,21	—	—	+0,18	2,600
2284	5	10 Cygni <i>ι</i>	—	4 28,21	—	19 25 28,25	28,20	—	27,94	+0,05	—	+0,31	1,511
2285	6.7	Sagittarii	—	—	3 32,49	19 25 32,46	—	—	32,48	—	—	—0,02	3,614
2286	7	Sagittarii	1 39,42	—	5 39,09	19 25 39,13	—	—	39,01	—	—	+0,12	3,549
2287	6	51 Sagittarii <i>h</i> ¹	—	—	1 49,22	19 25 49,19	—	—	49,21	—	—	—0,02	3,650
2288	5	37 Aquilæ <i>K</i>	5 51,90	1 51,68	—	19 25 51,86	—	—	51,45	—	—	+0,41	3,308
2289	4.5	38 Aquilæ <i>μ</i>	1 53,12	3 53,03	1 52,96	19 25 53,03	52,94	—	52,54	+0,09	—	+0,49	2,915
2290	4.5	52 Sagittarii <i>h</i> ²	1 28,65	3 28,78	—	19 26 28,74	28,64	—	28,36	+0,10	—	+0,38	3,654
2291	7	Sagittarii	—	—	3 38,31	19 26 38,29	—	—	37,87	—	—	+0,42	3,501
2292	5.6	9 Vulpeculæ	—	—	3 12,14	19 27 12,16	—	—	11,56	—	—	+0,60	2,631
2293	7	Sagittarii	—	4 18,31	—	19 27 18,29	—	—	17,89	—	—	+0,40	3,486
2294	4	39 Aquilæ <i>κ</i>	—	1 51,04	3 51,03	19 27 51,03	51,06	—	50,99	—0,03	—	+0,04	3,229
2295	5	41 Aquilæ <i>ι</i>	4 1,62	—	—	19 28 1,62	—	—	1,73	—	—	—0,11	3,104

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precession	
	No.		No.		No.					Green.	A. S. C.		
	1831		1832		1833								
	"		"		"		"	"	"	"	"		
2251	—		—		—		106 —	—	15 42,50	—	—	—6,192	
2252	—		4 55 22,09		—		130 55 22,09	—	55 14,46	+	7,63	6,201	
2253	—		—		—		22 —	58 2,68	38 2,92	—	—	6,234	
2254	5 56 19,54		—		—		36 56 19,54	56 19,46	56 19,35	+0,08	+ 0,19	6,290	
2255	—		—		3 10 55,14		118 10 55,14	—	10 55,69	—	0,55	6,351	
2256	—		2 49 39,51		3 49 39,43		114 49 39,46	—	49 32,29	+	7,17	6,436	
2257	—		—		5 44 0,93		114 44 0,93	—	43 55,50	+	5,43	6,445	
2258	—		—		5 17 0,54		114 17 0,54	—	16 57,49	+	3,05	6,459	
2259	—		1 3 14,57		4 3 16,17		64 3 15,85	—	3 16,99	—	1,14	6,515	
2260	—		—		5 6 5,43		112 6 5,43	—	6 0,88	+	4,55	6,540	
2261	—		—		—		120 —	—	3 57,65	—	—	6,540	
2262	—		—		—		105 —	—	22 40,37	—	—	6,567	
2263	—		—		—		73 —	—	22 55,10	—	—	6,585	
2264	—		—		—		104 —	—	52 35,28	—	—	6,588	
2265	5 24 29,13		4 24 28,80		—		78 24 28,99	—	24 25,91	+	3,08	7,316*	
2266	12 12 49,77		23 12 50,13		12 12 50,18		87 12 50,05	12 49,41	12 43,92	+0,64	+ 6,13	6,601	
2267	—		—		—		60 —	—	42 0,93	—	—	6,642	
2268	—		5 59 27,22		—		89 59 27,22	—	59 19,22	+	8,00	6,676	
2269	—		—		5 31 30,06		70 31 30,06	—	31 24,59	+	5,47	6,692	
2270	—		—		5 41 26,12		108 41 26,12	—	41 27,55	—	1,43	6,706	
2271	—		—		5 23 8,76		65 23 8,76	—	23 6,10	+	2,66	6,003*	
2272	5 57 31,97		—		—		16 57 31,97	57 32,46	57 28,95	—0,49	+ 3,02	6,753	
2273	—		1 19 17,73		4 19 18,45		117 19 18,31	—	19 13,94	+	4,37	6,801	
2274	5 36 31,73		—		—		24 36 31,73	36 30,69	36 28,91	+1,04	+ 2,82	6,836	
2275	—		—		5 23 8,01		88 23 8,01	—	23 2,31	+	5,70	6,889	
2276	—		2 39 12,29		3 39 12,92		111 39 12,77	—	39 11,01	+	1,76	6,921	
2277	5 40 12,53		5 40 12,97		1 40 12,83		65 40 12,76	40 11,76	40 8,68	+1,00	+ 4,08	6,988	
2278	—		4 7 53,70		—		93 7 53,70	—	7 49,66	+	4,04	6,999	
2279	—		—		5 34 21,63		65 34 21,63	—	34 18,31	+	3,32	7,007	
2280	—		—		4 19 58,18		118 19 58,18	—	19 19,52	—	—	7,024	
2281	6 23 16,39		3 23 16,41		—		62 23 16,40	23 17,22	23 14,02	—0,82	+ 2,38	7,171	
2282	—		2 12 51,30		3 12 52,48		114 12 52,01	—	12 50,40	+	1,61	7,206	
2283	—		2 25 19,99		3 25 21,97		69 25 21,18	—	25 19,04	+	2,14	7,236	
2284	5 37 29,06		—		—		38 37 29,06	37 30,11	37 29,00	—1,05	+ 0,06	7,298	
2285	—		—		5 40 7,01		113 40 7,01	—	40 6,84	+	0,17	7,299	
2286	—		—		3 8 5,59		111 8 5,59	—	7 57,70	+	7,89	7,308	
2287	—		—		5 4 48,62		115 4 48,62	—	4 41,14	+	7,48	7,321	
2288	2 55 11,22		1 55 12,74		—		100 55 11,72	—	55 8,58	+	3,14	7,325	
2289	5 58 14,00		3 58 14,42		5 58 14,64		82 58 14,35	58 15,20	58 12,07	—0,85	+ 2,28	7,328	
2290	—		5 14 49,48		—		115 14 49,48	14 45,79	14 43,41	+3,69	+ 6,07	7,374	
2291	—		3 12 56,16		2 12 58,14		109 12 56,95	—	12 56,72	+	0,23	7,387	
2292	—		1 35 17,70		4 35 17,19		70 35 17,29	—	35 11,79	+	5,50	7,436	
2293	—		1 35 44,43		3 35 44,92		108 35 44,80	—	35 44,48	+	0,32	7,442	
2294	5 23 37,87		—		—		97 23 37,87	23 39,84	23 34,97	—1,97	+ 2,90	7,487	
2295	5 39 7,79		—		—		91 39 7,79	—	39 3,53	+	4,26	7,502	

No.	Mag	NAMES.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832.	Green. Catal.	A. S. Catal.	Difference from		Annual Preces- sion.	
									Green.	A. S.		
			No. 1831	No. 1832	No. 1833							
			s.	s.	s.	h. m. s.	s.	s.	s.	s.	s.	
2296	5.6	9 Cygni			4 10,62	19 28 10,66		10,22		+0,44	+2,379	
2297	6	42 Aquilæ	P	4 52,63	1 52,73	19 28 52,64		52,18		+0,46	3,177	
2298	6	4 Sagittæ	e		4 41,11	19 29 41,13		41,17		—0,04	2,712	
2299	7	53 Sagittarii			4 43,40	19 29 43,38		43,15		+0,23	3,613	
2300	6.7	Sagittarii			4 0,80	19 30 0,78		0,85		—0,07	3,613	
2301	5	44 Aquilæ	σ	6 54,25		19 30 54,25		54,53		—0,28	2,960	
2302	5.6	54 Sagittarii	e¹		2 5,85	2 5,56	19 31 5,69		5,56		+0,13	3,437
2303	4	13 Cygni	θ	3 55,93		2 55,85	19 31 55,94	56,15	55,64	—0,21	+0,30	1,611
2304	6	45 Aquilæ			5 4,14	19 32 4,14		3,81		+0,33	3,090	
2305	4	5 Sagittæ	α	3 35,32	6 35,41		19 32 35,39	35,39	34,91	0,00	+0,48	2,678
2306	5	61 Draconis	σ		5 39,98		19 32 40,07		39,04		+1,03	—0,110*
2307	4	12 Cygni	φ			6 44,41	19 32 44,45	44,58	44,57	—0,13	—0,12	+2,365
2308	5	55 Sagittarii	e²	2 54,47	3 54,42		19 32 54,43		54,06		+0,37	3,432
2309	5	6 Sagittæ	β	2 30,29	3 30,28		19 33 30,29		30,02		+0,27	2,691
2310	6	Sagittarii				5 58,28	19 33 58,26		57,85		+0,41	3,416
2311	6	47 Aquilæ	χ		4 39,96		19 34 39,96		39,44		+0,52	2,820
2312	6.7	Sagittarii				5 45,35	19 34 45,31		45,41		—0,10	3,812
2313	6	56 Sagittarii	f	1 33,52	3 33,51	4 33,36	19 36 33,43	33,52	33,41	—0,09	+0,02	3,516
2314	6	10 Vulpeculæ	d			3 43,87	19 36 43,90		43,17		+0,73	2,490
2315	6	Vulpeculæ				5 3,38	19 37 3,38		3,09		+0,29	2,454
2316	5	15 Cygni		6 13,14	1 13,44		19 38 13,15		12,85		+0,30	2,154
2317	3	50 Aquilæ	γ	24 16,40	53 16,42	13 16,43	19 38 16,43	16,40	16,29	+0,03	+0,14	2,849
2318	6.7	Sagittarii				3 36,44	19 38 36,42		36,18		+0,24	3,373
2319	7	Sagittarii				5 29,10	19 39 29,09		28,75		+0,34	3,342
2320	6	Aquilæ				4 46,18	19 39 46,17		45,70		+0,47	3,310
2321	3.4	18 Cygni	δ	6 43,22			19 39 43,22	43,55	43,19	—0,33	+0,03	1,868
2322	4	7 Sagittæ	δ	4 53,90			19 39 53,90	53,94	53,62	—0,04	+0,28	2,672
2323	5	17 Cygni	χ	4 3,24	1 3,05		19 40 3,20		2,63		+0,57	2,271
2324	6	52 Aquilæ	π			3 47,19	19 40 47,20		46,73		+0,47	2,824
2325	4	Pavonis	ε			3 1,21	19 41 1,01		59,60		+1,41	7,109
2326	5.6	51 Aquilæ	D			3 31,90	19 41 31,89		31,41		+0,48	3,307
2327	5	8 Sagittæ	ζ		4 31,37		19 41 31,38		30,83		+0,55	2,659
2328	5.6	57 Sagittarii		1 26,05	4 25,93		19 42 25,95		25,83		+0,12	3,494
2329	12	53 Aquilæ	α	29 35,22	60 35,22	45 35,24	19 42 35,23	35,22	35,04	+0,01	+0,19	2,924*
2330	5.6	54 Aquilæ	ο			3 58,72	19 42 58,73		58,26		+0,47	2,856
2331	4.5	Sagittarii	E	6 39,87			19 43 39,87		39,12		+0,75	4,162
2332	5.6	12 Vulpeculæ	c			3 50,06	19 43 50,08		49,43		+0,65	2,578
2333	4	55 Aquilæ	η		3 54,91		19 43 54,91	54,73	54,24	+0,18	+0,67	3,056
2334	6	56 Aquilæ	E			4 1,19	19 45 1,18		1,02		+0,16	3,258
2335	6	58 Sagittarii	ω			4 32,44	19 45 32,41	32,36	32,18	+0,05	+0,23	3,671
2336	5	59 Aquilæ	ξ	8 6,45			19 46 6,45		5,96		+0,49	2,899
2337	6	58 Aquilæ				4 8,37	19 46 8,37		8,44		—0,07	3,071
2338	5	13 Vulpeculæ		4 19,38	1 19,50		19 46 19,40		18,99		+0,41	2,545
2339	5	59 Sagittarii	b		3 37,84		19 46 37,83	37,74	37,63	+0,09	+0,20	3,693
2340	3.4	60 Aquilæ	β	23 3,69	38 3,74	9 3,67	19 47 3,72	3,74	3,55	—0,02	+0,17	2,943

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession	
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.		
2296					3 54	6,22	60 54 6,22		54 4,64	+	1,58	—7,515	
2297			4 1	0,68	1 0	58,95	95 1 0,33		0 50,89	+	9,44	7,570	
2298			1 54	29,61	3 54	30,56	73 54 30,32		54 27,59	+	2,73	7,637	
2299			1 48	2,83	3 48	4,86	113 48 4,35		47 59,60	+	4,75	7,638	
2300					4 48	17,83	113 48 17,83		48 12,50	+	5,33	7,661	
2301	2 58	45,55	6 58	49,28			84 58 48,04		58 39,71	+	8,33	7,735	
2302					6 40	14,86	106 40 14,86		40 9,90	+	4,96	7,749	
2303	5 9	56,79	1 9	59,25			40 9 57,20	9 53,06	9 50,72	+4,14	+	6,48	7,821
2304					5 0	13,64	91 0 13,64		0 8,89	+	4,75	7,828	
2305	5 21	59,52			1 22	0,86	72 21 59,74	22 0,64	21 54,00	—0,90	+	5,74	7,871
2306			6 37	30,67			20 37 30,67		37 31,69	—	1,02	5,764*	
2307	4 13	47,70	1 13	45,52	3 13	47,98	60 13 47,63	13 44,19	13 39,34	+3,44	+	8,29	7,885
2308			2 30	37,67	3 30	36,51	106 30 36,97		30 31,17	+	5,80	7,895	
2309	5 54	24,19	1 54	24,28			72 54 24,20		54 22,92	+	1,28	7,945	
2310			2 51	8,70	2 51	11,15	105 51 9,92		51 0,98	+	8,94	7,980	
2311					5 33	44,87	78 33 44,87		33 39,77	+	5,10	8,037	
2312					5 17	52,80	121 17 52,80		17 49,12	+	3,68	8,042	
2313			5 9	31,71			110 9 31,71	9 27,07	9 25,54	+4,64	+	6,17	8,187
2314					5 37	33,76	64 37 33,76		37 23,55	+	10,21	8,203	
2315					5 15	38,51	63 15 38,51			—		8,229	
2316	5 2	47,25					53 2 47,25		2 43,51	+	3,74	8,323	
2317	37 47	28,17	51 47	28,70	18 47	28,84	79 47 28,53	47 25,10	47 22,32	+3,43	+	6,21	8,326
2318			1 6	35,28	4 6	33,58	104 6 33,92		6 32,78	+	1,14	8,351	
2319					5 43	43,76	102 43 43,76		43 41,92	+	1,84	8,420	
2320			3 16	52,25	2 16	55,69	101 16 53,64		16 48,62	+	5,02	8,443	
2321			5 16	34,52			45 16 34,52	16 32,25	16 28,96	+2,27	+	5,56	8,443
2322	5 52	28,20					71 52 28,20	52 30,05	52 27,07	—1,85	+	1,13	8,455
2323	5 39	31,13					56 39 31,13		39 28,67	+	2,46	8,468	
2324					5 35	43,65	78 35 43,65		35 42,43	+	1,22	8,525	
2325					4 20	24,34	163 20 24,34		20 9,12	+	15,22	8,530	
2326							101 —		10 50,86	—		8,582	
2327	4 16	24,01					71 16 24,01		16 19,53	+	4,48	8,583	
2328			2 27	53,23	1 27	53,44	109 27 53,30		27 44,17	+	9,13	8,653	
2329	70 34	8,21	60 34	8,24	50 34	8,18	81 34 8,21	34 10,65	34 5,48	—2,44	+	2,73	8,667
2330					5 0	0,82	80 0 0,82		59 53,97	+	6,85	8,698	
2331			2 18	5,82	3 18	4,03	132 18 4,75		18 2,90	+	1,85	8,748	
2332			4 48	38,63			67 48 38,63		48 37,88	+	0,75	8,765	
2333	5 25	10,73					89 25 10,73	25 10,10	25 5,24	+0,63	+	5,49	8,771
2334					4 0	11,86	99 0 11,86		0 6,61	+	5,25	8,857	
2335					5 44	14,14	116 44 14,14	44 15,46	44 11,55	—1,32	+	2,59	8,897
2336	3 58	3,05	5 58	2,95			81 58 2,99		57 55,72	+	7,27	8,943	
2337			1 9	36,44	5 9	39,40	90 9 38,90		9 31,17	+	7,73	8,946	
2338	2 21	9,81	2 21	11,90	1 21	9,44	66 21 10,58		21 8,43	+	2,15	8,961	
2339	5 36	25,08					117 36 25,08	36 26,50	36 21,41	—1,42	+	3,57	8,982
2340	26 0	22,86	19 0	23,28	12 0	22,11	84 0 22,84	0 24,90	0 21,49	—2,06	+	1,35	8,478*

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in				Mean A. R. January 1, 1832.	Green Catal.	A. S. Catal.	Difference from		Annual Preces- sion.
			No. 1831	No. 1832	No. 1833					Green	A. S.	
			s.	s.	s.	h. m. s.		s.	s.	s.	s.	s.
2341	6	61 Aquilæ ϕ	—	—	3 16,96	19 48 16,97			16,59		+0,38	+2,837
2342	6	10 Sagittæ	—	—	3 23,55	19 48 23,57			23,19		+0,38	2,723
2343	6	61 Sagittarii g	—	—	3 24,88	19 48 24,86			25,26		—0,40	3,408
2344	5.6	60 Sagittarii a	—	—	3 42,58	19 48 42,55		42,58	42,47	—0,03	+0,08	3,665
2345	7	Sagittarii	—	—	3 36,55	19 49 36,53			36,13		+0,40	3,564
2346	5	22 Cygni	3 51,52	6 51,73	—	19 49 51,68			51,22		+0,46	2,140
2347	6	11 Sagittæ	—	—	2 7,87	19 50 7,89			7,53		+0,36	2,721
2348	4.5	12 Sagittæ γ	6 17,18	6 17,21	—	19 51 17,20		17,25	16,74	—0,05	+0,46	2,660
2349	6	Sagittarii	—	6 24,42	1 24,69	19 51 24,45			24,17		+0,28	3,574
2350	5	14 Vulpeculæ f	7 58,15	—	—	19 51 58,15			57,53		+0,62	2,576
2351	4	Pavonis δ	—	1 10,09	—	19 52 10,00			8,69		+1,31	5,794
2352	4.5	62 Sagittarii c	—	3 19,16	4 19,03	19 52 19,08		19,11	18,82	—0,03	+0,26	3,700
2353	6	13 Sagittæ χ	—	—	3 28,02	19 52 28,04			28,06		—0,02	2,706
2354	6	63 Sagittarii	—	—	5 33,65	19 52 33,64			33,11		+0,53	3,364
2355	5	Sagittarii L	2 40,00	4 39,70	—	19 53 39,78			38,85		+0,93	3,818
2356	6.7	Sagittarii	—	4 46,55	—	19 53 46,54			46,51		+0,03	3,568
2357	5	15 Vulpeculæ g	4 11,17	—	—	19 54 11,17			10,55		+0,62	2,462
2358	5	Vulpeculæ	—	2 37,65	2 37,83	19 54 37,75			37,55		+0,20	2,538
2359	6	16 Vulpeculæ h	—	—	3 53,86	19 54 53,89			54,00		—0,11	2,535
2360	6	62 Aquilæ	—	—	3 43,83	19 55 43,83			43,80		+0,03	3,092
2361	6	64 Sagittarii Y	—	—	2 48,59	19 55 48,58			48,30		+0,28	3,318
2362	6	14 Sagittæ y	—	—	3 48,98	19 55 49,00			48,28		+0,72	2,742
2363	5.6	63 Aquilæ τ	—	—	—	19 55 —			55,75		—	2,929
2364	6	65 Sagittarii	—	—	2 5,52	19 56 5,51			4,96		+0,55	3,341
2365	6	15 Sagittæ z	—	5 33,59	—	19 56 33,60			32,77		+0,83	2,686*
2366	6	16 Sagittæ η	—	5 42,55	—	19 57 42,56			42,04		+0,52	2,656
2367	7	Capricorni	—	4 0,28	2 0,24	19 59 0,26			59,76		+0,50	3,390
2368	7	Capricorni	—	—	5 20,05	19 59 20,04			19,90		+0,14	3,284
2369	6	64 Aquilæ	—	—	5 21,31	19 59 21,31			21,13		+0,18	3,092
2370	5.6	17 Vulpeculæ i	—	—	5 40,10	19 59 40,07			40,56		—0,49	2,573
2371	5	67 Draconis ρ	6 1,87	5 1,72	—	20 2 1,84		2,29	0,94	—0,45	+0,90	0,304
2372	3.4	65 Aquilæ θ	6 38,14	6 38,17	6 38,15	20 2 38,15		38,12	37,98	+0,03	+0,17	3,095
2373	6.7	1 Capricorni ξ'	—	4 39,08	—	20 2 39,08			38,85		+0,23	3,331
2374	6	66 Draconis	4 51,70	—	—	20 2 51,70			50,97		+0,73	0,952
2375	5	2 Capricorni ξ^a	—	—	6 4,10	20 3 4,09			3,59		+0,50	3,335
2376	5	28 Cygni b^a	3 11,57	—	—	20 3 11,57			10,94		+0,63	2,223
2377	6	18 Vulpeculæ	—	—	4 33,02	20 3 33,05			32,70		+0,35	2,499
2378	6	Sagittarii R	—	3 47,95	—	20 4 47,94			44,95		+2,99	3,747*
2379	6	19 Vulpeculæ	—	—	3 47,24	20 4 47,27			46,08		+1,19	2,503
2380	6	20 Vulpeculæ k	—	—	5 58,18	20 4 58,21			57,27		+0,94	2,511
2381	5	67 Aquilæ ρ	—	1 30,24	4 30,26	20 6 30,27			30,06		+0,21	2,770
2382	6.7	3 Capricorni	—	—	6 4,53	20 7 4,52			3,98		+0,54	3,327
2383	5.6	21 Vulpeculæ l	—	6 20,59	—	20 7 20,61			20,33		+0,28	2,460
2384	6	4 Capricorni	—	—	4 8,81	20 8 8,79			8,80		—0,01	3,533
2385	5.6	22 Vulpeculæ m	—	—	4 14,93	20 8 14,96			14,52		+0,44	2,587

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precession				
	No.		1831		No.					1832			No.		1833	
	No.	1831	No.	1832	No.	1833				No.	1832		No.	1833	Green.	A. S. C.
2341	—	—	5	0 57,80	—	—	79 0 57,80	—	0 57,18	—	+	0,62	— 9,113			
2342	—	—	—	—	5 48	14,67	73 48 14,67	—	48 9,71	—	+	4,96	9,122			
2343	—	—	—	—	4 55	49,13	105 55 49,13	—	55 36,57	—	+	12,56	9,123			
2344	—	—	—	—	5 38	32,78	116 38 32,78	38 34,28	38 32,06	—1,50	+	0,72	9,145			
2345	—	—	—	—	5 39	32,07	112 39 32,07	—	39 32,20	—	—	0,13	9,215			
2346	—	—	4	57 21,03	1	57 20,89	51 57 21,00	—	57 14,78	—	+	6,22	9,238			
2347	—	—	4	39 23,95	6	39 23,63	73 39 23,76	—	39 19,02	—	+	4,74	9,257			
2348	5 57	31,54	3	57 31,03	—	—	70 57 31,35	57 31,54	57 20,74	—0,19	+	10,61	9,347			
2349	—	—	—	—	5	11 27,94	113 11 27,94	—	11 26,22	—	+	1,72	9,354			
2350	4 21	7,95	1	21 9,42	—	—	67 21 8,24	—	21 0,65	—	+	7,59	9,400			
2351	—	—	5	35 51,31	—	—	156 35 51,31	—	35 25,09	—	+	26,22	9,406			
2352	5 10	7,84	1	10 5,02	—	—	118 10 7,37	10 8,80	10 3,86	—1,43	+	3,51	9,424			
2353	—	—	3	56 10,70	2	56 13,61	72 56 11,86	—	56 8,48	—	+	3,38	9,439			
2354	—	—	—	—	5	5 42,84	104 5 42,84	—	5 39,72	—	+	3,12	9,443			
2355	5 31	12,86	—	—	—	—	122 31 12,86	—	31 10,23	—	+	2,63	9,527			
2356	—	—	3	3 32,24	2	3 33,09	113 3 32,58	—	3 36,06	—	—	3,48	9,537			
2357	4 42	19,52	—	—	1	42 17,95	62 42 19,21	—	42 16,97	—	+	2,24	9,571			
2358	2 39	36,53	5	39 39,62	—	—	65 39 38,74	—	39 41,43	—	—	2,69	9,605			
2359	—	—	5	31 38,72	—	—	65 31 38,72	—	31 35,52	—	+	3,20	9,626			
2360	—	—	4	10 18,03	—	—	91 10 18,03	—	10 7,95	—	+	10,08	9,688			
2361	—	—	—	—	6	4 5,43	102 4 5,43	—	3 57,49	—	+	7,94	9,693			
2362	—	—	—	—	5	26 5,02	74 26 5,02	—	25 57,19	—	+	7,83	9,695			
2363	—	—	—	—	5	11 23,15	83 11 23,15	—	11 21,03	—	+	2,12	9,704			
2364	—	—	—	—	5	7 58,05	103 7 58,05	—	7 51,36	—	+	6,69	9,715			
2365	—	—	—	—	5	22 45,07	73 22 45,07	—	22 37,32	—	+	7,75	9,752			
2366	—	—	5	29 8,04	—	—	70 29 8,04	—	29 3,60	—	+	4,44	9,840			
2367	—	—	2	30 25,30	3	30 28,40	105 30 26,85	—	30 18,74	—	+	8,11	9,937			
2368	—	—	—	—	9	32 34,64	100 32 34,64	—	32 31,06	—	+	3,58	9,962			
2369	—	—	4	9 20,62	—	—	91 9 20,62	—	9 17,11	—	+	3,51	9,964			
2370	—	—	5	51 53,18	—	—	66 51 53,18	—	51 51,14	—	+	2,04	9,990			
2371	5 36	15,88	2	36 16,04	—	—	22 36 15,94	36 21,38	36 18,53	—5,44	—	2,59	10,173			
2372	6 18	49,27	7	18 48,94	5	18 48,84	91 18 49,02	18 48,13	18 45,84	+0,89	+	3,18	10,212			
2373	—	—	5	53 2,39	—	—	102 53 2,39	—	53 1,86	—	+	0,53	10,213			
2374	4 29	23,32	—	—	—	—	28 29 23,32	—	29 29,16	—	—	5,84	10,234			
2375	—	—	—	—	5	6 8,62	103 6 8,62	—	6 5,25	—	+	3,37	10,244			
2376	4 38	58,67	—	—	—	—	53 38 58,67	—	38 58,19	—	+	0,48	10,256			
2377	—	—	2	35 15,86	2	35 17,22	63 35 16,53	—	35 14,78	—	+	1,75	10,282			
2378	—	—	5	31 35,99	—	—	117 31 35,99	—	31 26,39	—	+	9,60	11,129*			
2379	—	—	—	—	6	41 10,18	63 41 10,18	—	41 7,67	—	+	2,51	10,374			
2380	—	—	5	1 3,07	—	—	64 1 3,07	—	1 2,84	—	+	0,23	10,388			
2381	2 18	33,28	5	18 35,42	—	—	75 18 34,52	—	18 22,70	—	+	11,82	10,503			
2382	—	—	3	50 38,70	2	50 39,83	102 50 39,15	—	50 33,37	—	+	5,78	10,543			
2383	—	—	1	48 30,40	4	48 34,07	61 48 33,34	—	48 36,83	—	—	3,49	10,566			
2384	—	—	4	19 18,85	—	—	112 19 18,85	—	19 13,46	—	+	5,39	10,623			
2385	—	—	—	—	5	59 57,77	66 59 57,77	—	59 55,43	—	+	2,34	10,632			

No.	Mag	NAMES.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832.			Green. Catal.	A. S. Catal.	Difference from		Annual Preces- sion.
			No	1831	No	1832	No	1833			Green	A. S.	
			s.		s.		h. m. s.		s.	s.	s.	s.	s.
2386	4	5 Capricorni α^1	6	19,94	5	19,94	20 8 19,94		19,83	19,68	+0,11	+0,26	+3,330
2387	4	31 Cygni σ^2	3	20,61	6	20,66	20 8 20,66		20,59	20,22	+0,07	+0,44	1,886
2388	3	6 Capricorni α^2	16	43,72	7	43,69	20 8 43,71		43,68	43,64	+0,03	+0,07	3,331
2389	4.5	23 Vulpeculæ η	5	48,55	2	48,83	20 8 48,64		48,60	48,25	+0,04	+0,39	2,484
2390	6	18 Sagittæ			2	56,93	3 57,05 20 8 57,03			56,41		+0,62	2,632
2391	4.5	33 Cygni	3	29,19			20 9 29,19		29,34	28,36	-0,15	+0,83	1,392
2392	5	24 Vulpeculæ σ					3 35,77 20 9 35,80			35,78		+0,02	2,562
2393	5.6	7 Capricorni σ			2	41,75	20 9 41,74		41,63	41,56	+0,11	+0,18	3,471
2394	4.5	32 Cygni					5 16,35 20 10 16,42		16,78	16,81	-0,36	-0,39	1,852
2395	7	Capricorni β^1			1	20,01	4 19,91 20 11 19,91			19,57		+0,34	3,376
2396	5	8 Capricorni ν			5	20,52	20 11 20,51			20,40		+0,11	3,333
2397	3.4	9 Capricorni β^2			2	34,01	3 34,02 20 11 34,00		34,01	33,79	-0,01	+0,21	3,375
2398	2	Pavonis α					4 18,45 20 12 18,33			18,54		-0,21	4,811
2399	4.5	1 Cephei ν	4	23,71	2	23,45	20 14 23,68		23,85	20,39	-0,17	+3,29	-1,882*
2400	6	25 Vulpeculæ			6	50,27	20 14 50,28			50,02		+0,26	+2,575
2401	3	37 Cygni γ	6	11,84	25	12,14	20 16 12,10		12,19	11,60	-0,09	+0,50	2,148
2402	5	39 Cygni η	6	9,12	1	9,44	20 17 9,18			9,01		+0,17	2,387
2403	5	10 Capricorni π	2	41,95	3	41,90	20 17 41,90			41,80		+0,10	3,443
2404	5	11 Capricorni ρ	3	16,23	2	16,33	3 16,31 20 19 16,28		16,27	15,74	+0,01	+0,54	3,432
2405	6.7	Capricorni			6	24,83	20 19 24,81			24,43		+0,38	3,424
2406	6	Capricorni f			5	39,46	20 19 39,45			39,28		+0,17	3,532
2407	7	Capricorni σ^1			2	11,38	20 20 14,37			14,41		-0,04	3,448
2408	6	12 Capricorni σ^2			6	15,66	3 15,64 20 20 15,64			15,61		+0,03	3,448
2409	5	69 Aquilæ G	6	52,04			20 20 52,04			51,70		+0,34	3,134
2410	6	1 Delphini					6 15,56 20 22 15,57			14,92		+0,65	2,870
2411	4.5	41 Cygni i	6	31,93	2	31,91	5 31,69 20 22 31,85		32,07	31,83	-0,22	+0,02	2,446
2412	6	Capricorni					6 51,48 20 22 51,45			51,22		+0,23	3,586
2413	6	Capricorni u			5	12,08	20 23 12,05			10,94		+1,11	3,268
2414	7	Capricorni			5	50,41	20 24 50,40			49,78		+0,62	3,343
2415	5	45 Cygni w^2	6	51,33			20 24 51,33			50,76		+0,57	1,854
2416	4	2 Delphini e	7	11,28			2 11,25 20 25 11,28		11,21	10,88	+0,07	+0,40	2,864
2417	3	Indi a			7	43,25	20 25 43,21			43,37		-0,16	4,257
2418	7	Capricorni			4	1,46	20 26 1,45			1,01		+0,44	3,399
2419	6	3 Delphini η					5 0,36 20 26 0,37			59,93		+0,44	2,831
2420	5	46 Cygni w^3					1 8,05 20 26 8,13			7,64		+0,49	1,848
2421	5	Pavonis v					6 26,63 20 26 26,54			24,98		+1,56	5,640
2422	5	2 Cephei θ	3	45,68			20 26 45,08			44,05		+1,03	1,016
2423	5	4 Delphine ζ	6	27,30			4 27,31 20 27 27,32			26,78		+0,54	2,800
2424	6	13 Capricorni τ^1					3 55,60 29 27 55,58			55,43		+0,15	3,369
2425	5.6	70 Aquilæ Π					7 58,69 20 27 58,69			58,61		+0,08	3,126
2426	3	Pavonis β	2	42,66	3	43,12	20 29 43,02			43,45		-0,43	5,546
2427	5	71 Aquilæ I	4	39,59	2	39,59	20 29 39,59			39,30		+0,29	3,099
2428	4	6 Delphini β					5 40,46 20 29 40,48		40,31	39,91	+0,17	+0,57	2,803
2429	5.6	5 Delphini ι			5	46,88	20 29 46,88			46,51		+0,37	2,866
2430	6	14 Capricorni τ^2					3 52,36 20 29 52,34			52,20		+0,14	3,363

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precession	
	No.		No.		No.					Green.	A. S. C.		
	1831		1832		1833								
		"		"		"	"	"	"	"	"	"	
2386	5	1 12,86					103 1 12,86	1 16,06	1 10,14	-3,20	+	2,72	-10,637
2387	5	45 50,78			5	45 49,65	43 45 50,21	45 53,34	45 48,48	-3,13	+	1,73	10,641
2388	23	3 27,74	7	3 29,47	1	3 30,17	103 3 28,21	3 32,96	3 28,10	-4,75	+	0,11	10,667
2389					5	41 45,05	62 41 45,05	41 47,42	41 42,59	-2,37	+	2,46	10,674
2390					5	54 40,57	68 54 40,57		54 39,56		+	1,01	10,684
2391			5	56 36,76			33 56 36,76	56 37,84	56 39,70	-1,08	-	2,94	10,727
2392	5	50 27,17					65 50 27,17		50 25,80		+	1,37	10,733
2393			5	38 12,81			109 38 12,81	38 10,35	38 6,89	+2,46	+	5,92	10,738
2394			4	47 50,95	3	47 51,22	42 47 51,07	47 54,13	47 55,00	-3,06	-	3,93	10,785
2395							105 18 23,15		18 18,79				10,858
2396			4	16 49,92	2	16 51,46	103 16 50,43		16 49,86		+	0,57	10,859
2397	5	18 23,85	5	18 22,45			105 18 23,15	18 19,52	18 13,34	+3,63	+	4,36	10,876
2398	5	15 49,93					147 15 49,93		15 46,81		+	3,12	10,927
2399	5	47 49,50	3	47 51,65			12 47 50,31	47 53,52	47 57,12	-3,21	+	6,81	11,092
2400			5	5 4,94			66 5 4,94		5 3,71		+	1,23	11,117
2401	5	16 40,68	20	16 41,22	26	16 41,32	50 16 41,22	16 37,75	16 35,43	+3,47	+	5,79	11,216
2402	4	20 49,13	1	20 51,46			58 20 49,57		20 50,01		-	0,44	11,285
2403	5	45 19,24					118 45 19,24		45 16 81		+	2,43	11,322
2404	4	21 42,41	4	21 43,54			108 21 42,97	21 46,32	21 41,43	-3,35	+	1,54	11,435
2405			5	58 58,88			107 58 58,88		59 0,27		-	1,39	11,445
2406					5	56 29,72	112 56 29,72		56 28,46		+	1,26	11,463
2407			5	7 56,70			109 7 56,70		8 2,98		-	6,28	11,505
2408			2	7 56,55	3	7 58,23	109 7 57,56		7 49,66		+	7,90	11,506
2409	7	26 14,94					93 26 14,94		26 12,74		+	2,20	11,550
2410			5	39 43,66			79 39 43,66		39 34,74		+	8,92	11,650
2411	6	11 18,92	5	11 19,31	6	11 18,90	60 11 19,03	11 15,28	11 11,63	+3,75	+	7,40	11,671
2412			2	30 17,33	3	30 19,04	115 30 18,36		30 12,38		+	5,98	11,691
2413					5	25 15,02	100 25 15,02		25 14,73		+	0,29	11,715
2414			4	17 31,92			104 17 31,92		17 31,44		+	0,48	11,831
2415	5	36 35,51					41 36 35,51		36 34,87		+	0,64	11,836
2416	5	15 44,88	1	15 46,96	3	15 44,45	79 15 44,97	15 45,39	15 38,88	-0,42	+	6,09	11,857
2417			5	52 7,51			137 52 7,51		52 9,06		-	1,55	11,892
2418			5	5 48,17			107 5 48,17		5 44,69		+	3,48	11,915
2419			1	32 33,06	4	32 34,90	77 32 34,53		32 32,13		+	2,40	11,915
2420	2	20 34,24					41 20 34,24		20 37,61		-	3,37	11,926
2421			1	20 31,30	3	20 31,74	157 20 31,63		20 31,72		-	0,09	11,938
2422	5	34 4,97					27 34 4,97		34 10,85		-	5,88	11,971
2423	5	54 1,38					75 54 1,38		53 52,12		+	9,26	12,017
2424			5	43 25,44	3	43 25,10	105 43 25,10		43 16,73		+	8,37	12,049
2425			2	7 31,41			93 7 31,41		7 28,97		+	2,44	12,053
2426	5	47 43,28					156 47 43,28		47 51,88		-	8,60	12,169
2427			5	41 11,59			91 41 11,59		41 4,89		+	6,70	12,170
2428					5	59 2,87	75 59 2,87	59 2,92	58 52,03	+0,05	+	10,84	12,171
2429			5	12 12,45			79 12 12,45		12 11,94		+	0,51	12,179
2430					5	32 19,25	105 32 19,25		32 8,85		+	10,40	12,184

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832.	Green Catal.	A. S. Catal.	Difference from		Annual Preces- sion.	
			No.			No.						Green	A. S.		
			1831	1832	1833	1831	1832	1833					s.		s.
			s.	s.	s.	h.	m.	s.	s.	s.	s.	s.	s.		
2431	5.6	27 Velpeculæ <i>p</i>				20	29			54,53			+2,554		
2432	5	15 Capricorni <i>v</i>	1 28,90	5 28,78		20	30	28,80	28,80	28,37	0,00	+0,43	3,427		
2433	5.6	1 Aquarii				20	30			48,18			3,070		
2434	4.5	8 Delphini <i>θ</i>	6 48,33			20	30	48,33	48,26	47,76	+0,07	+0,57	2,829		
2435	5.6	7 Delphini <i>κ</i>			3 58,31	20	30	58,32		57,72		+0,60	2,891		
2436	5.6	29 Vulpeculæ <i>s</i>			3 1,41	20	31	1,43		0,62		+0,82	2,671		
2437	6.7	Capricorni			4 5,80	20	31	5,78		5,85		—0,07	3,385		
2438	5.6	28 Vulpeculæ			3 12,87	20	31	12,90		12,31		+0,59	2,608		
2439	3.4	9 Delphini <i>α</i>	5 50,16	1 50,18	1 50,28	20	31	50,18	50,43	50,05	—3,25	+0,13	2,779		
2440	6	Cygni		5 4,88		20	32	4,90		4,45		+0,45	2,466		
2441	7	Capricorni		1 6,06	2 6,07	20	33	6,05		5,70		+0,35	3,423		
2442	6	10 Delphini			5 24,32	20	33	24,34		24,04		+0,30	2,807		
2443	5	11 Delphini <i>δ</i>	4 37,16			20	35	37,16		36,91		+0,25	2,800		
2444	1	50 Cygni <i>α</i>	31 42,50	50 42,44		20	35	42,48	42,46	41,97	+0,02	+0,51	2,040		
2445	4.5	16 Capricorni <i>ψ</i>	5 8,33			20	36	8,33	8,29	8,58	+0,04	—0,25	3,572		
2446	6	17 Capricorni		6 25,15		20	36	25,13		24,77		+0,36	3,490		
2447	6	30 Vulpeculæ		5 36,60		20	37	36,62		36,17		+0,45	2,594		
2448	7	Capricorni		1 27,96	7 28,08	20	38	28,04		28,05		—0,01	3,515		
2449	6	Capricorni			2 33,00	20	38	32,97		32,82		+0,15	3,512		
2450	4.5	2 Aquarii <i>ε</i>	6 34,89			20	38	34,89	34,69	34,51	+0,20	+0,38	3,252		
2451	4	3 Aquarii <i>κ</i>	3 52,04			20	38	52,04	52,16	51,70	—0,12	+0,34	3,170		
2452	4	12 Delphini <i>γ</i>	6 52,03			20	38	52,03	51,94	52,72	+0,09	—0,69	2,783		
2453	6	Capricorni			3 18,60	20	39	18,57		18,49		+0,08	3,578		
2454	4.5	Microscopii <i>α</i>		5 27,56		20	39	27,54	27,25	26,63	+0,29	+0,91	3,771		
2455	3	53 Cygni <i>ε</i>		5 25,06		20	39	25,08	24,89	24,52	+0,19	+0,56	2,393		
2456	5.6	13 Delphini <i>λ</i>	4 52,93	1 53,00		20	39	52,95		29,01			2,971		
2457	6.7	Capricorni			3 48,32	20	39	48,30		48,21		+0,09	3,414		
2458	5	54 Cygni <i>λ</i>	4 52,29	1 52,03	5 52,02	20	40	52,15		51,41		+0,74	2,330		
2459	5	Cephei <i>χ</i>		5 10,70		20	41	10,75		10,89		—0,14	1,500		
2460	6	Capricorni			3 20,40	20	41	20,37		17,34			3,595		
2461	6.7	Capricorni <i>p</i>			3 25,91	20	41	25,90		25,24		+0,66	3,306		
2462	6.7	Capricorni			1 29,87	20	41	29,84		29,81		+0,03	3,607		
2463	4	Indi <i>β</i>		5 37,16		20	41	37,10		37,20		—0,10	4,768		
2464	5.6	18 Capricorni <i>ω</i>			5 46,95	20	41	46,92		47,08		—0,16	3,599		
2465	3.4	3 Cephei <i>η</i>	1 51,69	3 51,28		20	41	51,44	51,74	50,47	—0,30	+0,97	1,220		
2466	6	4 Aquarii		3 31,15	3 30,94	20	42	31,04		30,97		+0,07	3,179		
2467	7	Aquarii		2 49,30		20	42	49,29		48,51		+0,78	3,285		
2468	6	Capricorni <i>m</i>			3 9,36	20	43	9,33		8,81		+0,52	3,527		
2469	6	5 Aquarii		2 15,55		20	43	15,54		15,35		+0,19	3,177		
2470	4.5	6 Aquarii <i>μ</i>	6 35,47		1 35,29	20	43	35,43	35,29	35,07	+0,14	+0,36	3,239		
2471	6	Aquarii		4 53,97		20	43	53,96		53,45		+0,51	3,286		
2472	5	Octantis <i>α</i>				20	44			3,96			7,674		
2473	6	31 Vulpeculæ <i>π</i>		5 56,53		20	44	56,55		55,71		+0,84	2,568		
2474	6	19 Capricorni	1 17,88	3 17,50	2 17,98	20	45	17,69	17,89	17,43	—0,20	+0,26	3,405		
2475	7	Capricorni		5 47,75		20	46	47,68		47,29		+0,39	3,575		

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
2431	—	—	—	—	5 7	4,89	64 7 4,89	—	6 58,50	—	+ 6,39	—12,189
2432	—	—	—	—	4 43	23,37	108 43 23,37	43 27,13	43 19,27	—3,76	+ 4,10	12,226
2433	—	—	3 5	58,08	2 6	1,54	90 5 59,46	—	5 51,15	—	+ 8,30	12,250
2434	4 16	8,67	3 16	9,43	—	—	77 8 8,99	16 10,24	46 6,31	—1,25	+ 2,68	12,250
2435	—	—	—	—	5 30	3,77	80 3 3,77	—	29 56,69	—	+ 7,08	12,261
2436	—	—	—	—	4 23	1,48	69 23 1,48	—	22 56,97	—	+ 4,51	12,265
2437	—	—	—	—	3 42	55,74	106 42 55,74	—	42 57,31	—	— 1,57	12,269
2438	—	—	—	—	—	—	66 28 —	—	28 6,85	—	—	12,279
2439	5 40	35,68	2 40	35,58	—	—	74 40 35,64	40 32,49	40 25,94	+3,15	+ 9,70	12,322
2440	—	—	5 15	2,19	—	—	60 15 2,19	—	14 57,00	—	+ 5,19	12,339
2441	—	—	1 42	14,62	4 42	13,99	108 42 14,12	—	42 15,73	—	— 1,61	12,407
2442	—	—	3 0	34,62	2 0	35,58	76 0 35,01	—	0 30,66	—	+ 4,35	12,429
2443	6 31	25,12	1 31	23,27	—	—	75 31 24,87	—	31 17,99	—	+ 6,88	12,581
2444	70 19	1,75	56 19	1,72	40 19	1,61	45 19 1,70	19 0,6	18 57,07	+1,54	+ 4,63	12,588
2445	—	—	—	—	5 52	6,55	115 52 6,55	52 5,03	52 1,86	+1,52	+ 4,69	12,615
2446	—	—	5 7	7,24	—	—	112 7 7,24	—	7 4,10	—	+ 3,14	12,633
2447	—	—	1 19	35,06	—	—	65 19 35,06	—	19 29,98	—	+ 5,08	12,716
2448	—	—	—	—	4 27	25,09	113 27 25,09	—	27 25,54	—	— 0,45	12,772
2449	—	—	1 20	36,16	5 20	38,34	113 20 37,98	—	20 32,06	—	+ 5,92	12,778
2450	4 6	22,64	2 6	22,08	—	—	100 6 22,46	6 19,34	6 10,84	+3,12	+ 11,62	12,780
2451	5 38	15,99	—	—	—	—	95 38 15,99	38 15,37	38 9,12	+0,62	+ 6,87	12,800
2452	4 28	33,62	1 28	35,07	2 23	35,26	74 28 34,30	28 34,28	28 28,46	+0,02	+ 5,84	12,802
2453	—	—	—	—	5 23	42,09	116 23 42,09	—	23 38,45	—	+ 3,64	12,829
2454	—	—	2 23	41,40	3 23	43,11	124 23 42,43	—	23 37,88	—	+ 4,55	12,837
2455	5 39	16,54	5 39	17,50	—	—	56 32 17,02	39 16,05	39 11,38	0,97	+ 5,64	12,838
2456	—	—	1 36	16,59	4 36	16,71	84 36 16,69	—	36 15,83	—	+ 0,86	12,842
2457	—	—	5 38	56,19	—	—	108 38 56,19	—	38 56,70	—	— 0,51	12,862
2458	5 7	23,02	—	—	—	—	54 7 23,02	—	7 14,92	—	+ 8,10	12,935
2459	—	—	6 1	13,84	—	—	33 1 13,84	—	1 6,54	—	+ 7,30	12,959
2460	—	—	—	—	—	—	117 19 —	—	19 7,83	—	—	12,961
2461	—	—	—	—	3 9	39,42	103 9 39,42	—	9 36,56	—	+ 2,86	12,971
2462	—	—	—	—	5 51	50,51	117 51 50,51	—	51 50,17	—	+ 0,34	12,975
2463	4 4	43,19	—	—	—	—	149 4 43,19	—	4 35,34	—	+ 7,85	12,981
2464	—	—	3 32	25,56	3 32	26,19	117 32 25,87	—	32 22,87	—	+ 3,00	12,994
2465	—	—	4 48	39,93	1 48	38,92	28 48 39,73	48 42,95	48 42,08	—3,22	— 2,35	13,813*
2466	—	—	5 14	58,16	—	—	96 14 58,16	—	14 51,36	—	+ 6,80	13,044
2467	—	—	4 3	46,86	—	—	102 3 46,89	—	3 42,88	—	+ 3,98	13,063
2468	—	—	—	—	5 24	25,10	114 24 25,10	—	24 20,51	—	+ 4,59	13,085
2469	—	—	—	—	5 7	53,29	96 7 53,29	—	7 47,34	—	+ 5,92	13,093
2470	5 36	31,88	2 36	31,76	—	—	99 37 31,90	36 29,82	36 21,83	+2,08	+ 10,07	13,114
2471	—	—	3 12	11,13	—	—	102 12 11,13	—	12 11,99	—	— 0,86	13,135
2472	—	—	—	—	—	—	167 38 Invis.	—	38 4,89	—	—	13,137
2473	—	—	5 31	36,72	—	—	63 31 36,72	—	31 35,95	—	+ 0,27	13,205
2474	—	—	1 33	10,12	4 33	12,15	108 33 11,75	33 15,43	33 12,21	—	— 0,46	13,227
2475	—	—	5 55	50,26	—	—	116 55 50,26	—	55 47,34	—	+ 2,92	13,324

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	NAMES.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832.	Green. Catal.	A. S. Catal.	Difference from		Annual Preces- sion.	
			No. 1831			No. 1832						No. 1833	Green.		A. S.
				s.		s.		s.	h. m. s.		s.	s.	s.	s.	
2476	6	Equulei			5	15,99			20 47 15,98		15,34		+0,64	+3,000	
2477	5	57 Cygni	7	18,30					20 47 18,30		18,02		+0,28	2,115	
2478	4.5	32 Vulpeculæ <i>q</i>	5	24,24			1	24,16	20 47 24,23	24,16	23,74	+0,07	+0,49	2,552	
2479	6	16 Delphini <i>χ</i>			2	37,61	3	38,03	20 47 37,87		37,13		+0,74	2,858	
2480	6	17 Delphini <i>μ</i>					7	39,60	20 47 39,62		39,06		+0,56	2,837	
2481	6	7 Aquarii					4	48,87	20 47 48,86		48,94		—0,08	3,249	
2482	7	Capricorni					3	15,96	20 48 15,94		15,61		+0,33	3,365	
2483	6	Equulei			5	23,78	1	23,93	20 49 23,81		23,43		+0,38	3,007	
2484	6	20 Capricorni			5	3,07	1	2,82	20 50 3,02		2,91		+0,11	3,421	
2485	6	18 Delphini <i>ν</i>					4	20,59	20 50 20,60		20,06		+0,54	2,891	
2486	5.6	1 Equulei <i>ε</i>					2	40,61	20 50 40,62		40,41		+0,21	3,005	
2487	6	8 Aquarii <i>z</i> ¹					3	40,43	20 50 40,42		41,13		—0,71	3,308	
2488	5.6	33 Vulpeculæ <i>x</i>					2	45,88	20 50 45,89		45,60		+0,29	2,678	
2489	4	58 Cygni <i>ν</i>	6	54,59			1	54,78	20 50 54,63	54,88	54,36	—0,25	+0,27	2,229	
2490	6	21 Capricorni	1	24,01			5	23,96	20 51 23,96		23,82		+0,14	3,390	
2491	6	11 Aquarii <i>r</i>			2	42,80			20 51 42,80		42,74		+0,06	3,160	
2492	6	Capricorni <i>n</i>			1	46,04	3	46,38	20 51 46,27		45,66		+0,56	3,578	
2493	5	Cephei <i>K</i>	2	47,23	2	47,27			20 51 47,28					1,605	
2494	6	9 Aquarii <i>z</i> ²			5	52,47			20 51 52,46		52,32		+0,14	3,315	
2495	6	2 Equulei <i>λ</i>					6	55,68	20 53 55,69		55,53		+0,16	+2,957	
2496	5	76 Draconis			19	15,83			20 54 15,93		17,90		—1,97	—3,725	
2497	7	22 Capricorni <i>η</i>	3	50,10			1	50,14	20 54 50,11	50,15	50,07	+0,07	+0,04	+3,430	
2498	6	12 Aquarii			5	11,44			20 55 11,43		10,89		+0,54	+3,178	
2499	5	Cephei <i>h</i>			3	55,47	1	55,50	20 55 55,48		46,96			—2,335	
2500	6	3 Equulei <i>ζ</i>			5	12,85			20 56 12,86		12,24		+0,62	+2,987	
2501	5.6	23 Capricorni <i>θ</i>					4	29,86	20 56 29,84	30,03	29,36	+0,19	+0,48	3,378	
2502	7	Capricorni			5	7,10			20 57 7,09		6,62		+0,47	3,433	
2503	6	4 Equulei			4	7,22	2	7,29	20 57 7,25		6,70		+0,55	2,979	
2504	5.6	24 Capricorni <i>A</i>					3	17,54	20 57 17,51		17,05		+0,46	3,528	
2505	4	62 Cygni <i>ξ</i>	1	49,18	1	49,64			20 58 49,42	49,43	48,72	0,01	+0,70	2,174	
2506	5.6	25 Capricorni <i>χ</i> ¹					3	55,57	20 58 55,55	55,53	55,60	+0,02	—0,05	3,449	
2507	6	27 Capricorni <i>χ</i> ³					5	26,26	20 59 56,24		56,06		+0,18	3,435	
2508	5	13 Aquarii <i>ν</i>	2	26,27					21 0 26,27	26,17	25,64	0,10	+0,63	3,270	
2509	5	63 Cygni <i>f</i> ²			6	48,90			21 0 48,94		48,64		+0,30	2,059	
2510	5	5 Equulei <i>γ</i>	4	10,37					21 2 10,37		10,10		+0,27	2,912	
2511	6	3 Piscis Aust			5	18,93			21 3 18,90		19,02		—0,12	3,497*	
2512	3	64 Cygni <i>ζ</i>	3	47,40	5	47,29			21 5 47,34	47,42	46,81	—0,08	+0,53	2,546	
2513	7	Aquarii			5	58,77			21 5 58,76		58,31		+0,42	3,194	
2514	6	28 Capricorni <i>φ</i>			4	3,54	4	3,65	21 6 3,58	3,46	3,34	+0,12	+0,24	3,428	
2515	5.4	7 Equulei <i>δ</i>	1	17,96	4	18,05			21 6 18,04	17,97	17,80	0,07	+0,24	2,917	
2516	5	29 Capricorni <i>S</i>			5	26,58			21 6 26,57	26,60	26,68	—0,03	—0,11	3,329	
2517	4.5	8 Equulei <i>α</i>	1	25,63	4	25,42	1	25,58	21 7 25,46	25,59	25,28	0,13	+0,18	2,995	
2518	5	4 Piscis Aust	5	44,28					21 7 44,28		43,43		+0,85	3,658	
2519	5	65 Cygni <i>τ</i>	1	5,58	4	5,30			21 8 5,38		4,80		+0,58	2,373	
2520	6	30 Capricorni <i>r</i>			2	31,36	3	31,58	21 8 31,47		31,65		—0,18	3,376	

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession	
	No.		1831		No.					Green.	A. S. C.		
	1832		1833		1834								
2476			1 6 13,21		4 6 15,24		86 6 14,83		6 12,24		+	2,59	+13,356
2477	5 14 43,60						46 14 43,60		14 43,15		+	0,45	13,361
2478	6 34 34,65				2 34 34,91		62 34 34,72	34 38,02	34 31,79	-3,30	+	2,93	13,366
2479			5 4 6,76				78 4 6,76		4 6,33		+	0,43	13,380
2480			3 54 52,57		2 54 52,55		76 54 52,56		54 42,90		+	9,66	13,382
2481					5 20 13,16		100 20 13,16		20 2,47		+	10,69	13,392
2482					4 40 19,19		106 40 19,19		40 18,85		+	0,34	13,421
2483					5 26 50,51		86 26 50,51		26 49,10		+	1,41	13,495
2484			4 40 54,16		1 40 54,75		109 40 54,28		40 46,30		+	7,98	13,526
2485			5 48 18,44				79 48 18,44		48 12,70		+	5,74	13,556
2486					5 20 45,94		86 20 45,94		20 42,62		+	3,32	13,578
2487					5 41 54,08		103 41 54,08		41 51,18		+	2,90	13,578
2488			2 19 5,25		3 19 6,14		68 19 5,77		19 5,99		-	0,22	13,584
2489	5 28 34,87		1 28 35,08				49 28 34,90	28 34,23	28 28,62	+0,67	+	6,28	13,594
2490					5 10 46,70		108 10 46,70		10 46,44		+	0,26	13,623
2491			5 22 30,31				95 22 30,31		22 18,87		+	11,44	13,644
2492			1 31 53,19		5 31 53,57		117 31 53,49		31 52,02		+	1,47	13,646
2493	6 45 22,03						33 45 22,03		45 21,79		+	0,24	13,652
2494					2 10 51,47		104 10 51,47		10 47,90		+	3,57	13,654
2495			5 28 30,06				83 28 30,06		28 27,95		+	2,11	13,785
2496	4 5 49,32		1 5 50,53		6 5 48,77		8 5 49,13		5 55,81		-	6,68	13,823
2497	4 30 49,34		1 30 50,39				110 30 49,55	30 48,39	30 45,13	+1,16	+	4,42	13,842
2498			5 28 57,98				96 28 57,98		28 53,96		+	4,02	13,861
2499			4 6 0,50		1 6 2,06		10 6 0,81						13,914
2500			3 9 38,52		1 9 39,91		85 9 38,87		9 32,92		+	5,95	13,929
2501					5 53 39,26		107 53 39,26	53 43,69	53 42,37	-4,43	-	3,11	13,946
2502			5 50 48,62				110 50 48,62		50 45,26		+	3,36	13,985
2503			4 41 7,42				84 41 7,42		41 59,62				13,986
2504					5 40 19,72		115 40 19,72		40 11,02		+	8,70	13,996
2505	5 44 19,74		7 44 19,64		5 44 19,85		46 44 19,72	44 20,82	44 19,79	-1,10	-	0,07	14,094
2506			5 51 46,64				111 51 46,64	51 45,23	51 40,97	+1,41	+	5,67	14,099
2507			5 13 31,30				111 13 31,30		13 26,22		+	5,08	14,161
2508	5 2 48,46						102 2 48,46	2 49,92	2 43,06	-1,46	+	5,40	14,192
2509			5 1 22,65				43 1 22,65		1 28,83		-	6,18	14,218
2510	5 32 28,77						80 32 28,77		32 23,81		+	4,96	14,300
2511			6 17 53,16				118 17 53,16		17 51,92		+	1,24	14,369
2512	5 27 31,51				6 27 32,97		60 27 32,30	27 30,04	27 27,72	+2,26	+	4,58	14,520
2513			5 46 36,54				97 46 36,54		46 37,44		-	0,90	14,530
2514			4 20 36,06				111 20 36,06	20 37,12	20 32,58	-1,06	+	3,48	14,535
2515			7 40 12,69		5 40 12,45		80 40 12,59	40 8,96	40 3,41	+3,63	+	9,18	14,550
2516			5 51 52,31				105 51 52,31	51 55,13	51 45,53	-2,82	+	6,78	14,558
2517	6 26 35,56						85 26 35,56	26 31,75	26 28,03	+3,81	+	7,53	14,618
2518	4 52 5,40						122 52 5,40		51 58,83		+	6,57	14,634
2519	3 40 2,33		1 40 3,25				52 40 2,56		39 58,00		+	4,56	15,158*
2520			2 40 57,48		4 40 58,19		108 40 57,92		40 56,12		+	1,80	14,683

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	NAMES.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832.	Green. Catal.	A. S. Catal.	Difference from		Annual Preces- sion.
			No. 1831			No. 1832						Green	A. S.	
			No.	1831	No.	1832	No.	1833						
				s.		s.		s.	h. m. s.		s.	s.	s.	s.
2521	6.7	31 Capricorni		—		—	5	51,04	21 8 51,02		51,50		—0,48	+3,566
2522	7	Aquarii		—		—	6	54,71	21 9 54,69		54,39		+0,30	3,342
2523	4.5	67 Cygni σ	7	49,35		—		—	21 10 49,35	49,95	48,26	—0,10	+1,09	2,348
2524	4.5	66 Cygni ν		—	3	0,71		—	21 11 0,71	0,89	59,77	—0,18	+0,94	2,458
2525	6	16 Aquarii ς^2		—	4	15,75		—	21 12 15,75		15,16		+0,59	3,151
2526	3	Pavonis γ		—		—	5	27,84	21 12 27,75		26,77		+0,98	5,086
2527	6	9 Equulei η		—		—	5	46,09	21 12 46,10		45,73		+0,37	2,964
2528	5	32 Capricorni ι	4	53,06	2	53,06		—	21 12 53,06	53,01	53,13	+0,05	—0,07	3,350
2529	7	Aquarii		—		—	4	57,40	21 12 57,40		57,28		+0,12	3,226
2530	6	Capricorni		—		—	4	22,14	21 13 22,12		21,59		+0,53	3,452
2531	6	17 Aquarii γ^1		—	5	55,58		—	21 13 55,57		55,83		—0,26	3,225
2532	7	Capricorni		—	5	9,66		—	21 14 9,64		9,43		+0,21	3,498
2533	5	Indi γ	3	13,31		—		—	21 14 13,31		13,56		—0,25	4,350
2534	4	1 Pegasi ϵ		—	5	19,17		—	21 14 19,18	19,17	18,91	+0,01	+0,27	2,762
2535	5.6	10 Equulei β		—	5	33,28		—	21 14 33,29		33,01		+0,28	2,974
2536	3	5 Cephei α	3	34,12	5	33,80	9	33,12	21 14 33,66	33,89	33,07	—0,23	+0,59	1,416
2537	6	33 Capricorni		—		—	3	37,40	21 14 37,38		37,09		+0,29	3,417
2538	6	18 Aquarii A	1	0,49		—	4	0,49	21 15 0,48		0,10		+0,38	3,281
2539	5	6 Cephei	7	52,49		—		—	21 15 52,49		51,83		+0,69	1,257
2540	6	19 Aquarii γ^2		—		—	3	11,01	21 16 11,00		10,59		+0,41	3,230
2541	6	Pegasi		—		—	1	24,76	21 16 24,79		24,25		+0,54	2,687
2542	6	21 Aquarii		—	5	31,19		—	21 16 31,18		31,11		+0,07	3,133
2543	4	34 Capricorni ζ	6	3,88		—		—	21 17 3,88	3,80	3,40	+0,08	+0,48	3,441
2544	6	Pegasi		—	4	6,67		—	21 17 6,69		6,75		—0,06	2,653
2545	6	35 Capricorni		—	5	42,83		—	21 17 42,81		42,31		+0,50	3,418
2546	5.6	36 Capricorni δ		—	5	8,02	3	8,15	21 19 8,05	8,04	7,52	+0,01	+0,53	3,426
2547	7	Capricorni		—	3	33,35	2	33,39	21 20 33,35		33,08		+0,27	3,378
2548	7	Capricorni		—	5	43,10		—	21 20 43,08		42,69		+0,39	3,484
2549	7	Aquarii		—		—	6	27,82	21 21 27,80		27,60		+0,20	3,297
2550	5.6	2 Pegasi f	2	20,63	4	20,54	1	20,33	21 22 20,55		20,57		—0,02	2,710
2551	3	22 Aquarii β	6	42,82	6	42,72	12	42,62	21 22 42,68	42,54	42,47	+0,14	+0,21	3,162
2552	6	Capricorni		—	7	51,91		—	21 22 51,89		51,29		+0,60	3,469
2553	5	71 Cygni g	5	15,32		—		—	21 23 15,32		14,59		+0,93	2,200
2554	6.7	Capricorni		—	5	6,55		—	21 25 6,54		6,02		+0,52	3,280
2555	7	37 Capricorni t^1		—	6	24,46		—	21 25 24,45		24,39		+0,06	3,386
2556	7	38 Capricorni t^2		—	2	27,46	3	27,48	21 25 27,46		27,38		+0,08	3,388
2557	7	Capricorni		—	5	38,82		—	21 25 38,80		38,39		+0,41	3,443
2558	5.6	8 Piscis Aust.		—	4	25,81		—	21 26 25,79		25,51		+0,28	3,490
2559	3	8 Cephei β	2	27,66		—	1	26,91	21 26 27,59	27,74	26,69	—0,15	+0,90	0,811
2560	5	39 Capricorni ϵ	6	40,01		—	3	39,79	21 27 39,94	39,99	39,78	—0,05	+0,16	3,372
2561	5	73 Cygni ρ	5	40,03		—	1	40,07	21 27 40,05	40,09	39,75	—0,04	+0,30	2,248
2562	5	23 Aquarii ξ	5	48,16	6	48,25		—	21 28 48,20	48,12	48,21	+0,08	—0,01	3,192
2563	6	3 Pegasi		—	5	21,57		—	21 29 21,58		20,88		+0,70	2,984
2564	5.6	5 Pegasi		—	4	54,07	2	53,90	21 29 54,03		53,27		+0,76	2,795
2565	5	4 Pegasi T^1	1	6,91	4	7,17		—	21 30 7,12		6,73		+0,39	2,997

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession
										Green.	A. S. C.	
	No.	1831	No.	1832	No.	1833						
2521		—		—	4	9 39,38	108 9 39,38		9 37,00		+ 2,38	+14,703
2522		—	5	52 49,39		—	106 52 49,30		52 47,98		+ 1,32	14,763
2523	5	19 20,82	1	19 22,16		—	51 19 21,06	19 22,07	19 24,65	—1,01	— 3,59	14,820
2524	5	48 17,46		—		—	55 48 17,46	48 17,50	48 14,69	—0,04	+ 2,77	14,831
2525		—	1	16 9,75	4	16 11,25	95 16 10,95		16 0,10		+ 10,85	14,903
2526	3	7 3,34	1	7 4,40	1	7 5,02	156 7 3,87		7 10,90		— 7,03	14,911
2527		—	1	21 7,53	4	21 10,48	83 21 9,89		21 5,76		+ 4,10	14,933
2528		—	5	32 38,61		—	107 32 38,61	32 43,17	32 34,60	—4,56	+ 4,01	14,940
2529		—		—	5	2 13,65	100 2 13,65		—		—	14,944
2530		—		—	3	22 49,20	112 22 49,20		22 49,53		— 0,33	14,967
2531		—		—	3	1 53,38	100 1 53,38		1 44,94		+ 8,44	15,001
2532		—	3	54 56,84		—	115 54 56,84		54 52,36		+ 4,48	15,013
2533	5	22 48,49		—		—	145 22 48,49		22 34,03		+ 14,46	15,016
2534	5	54 37,74		—		—	70 54 37,74	54 36,23	54 33,41	+1,51	+ 4,33	15,024
2535		—		—	5	54 7,96	83 54 7,96		54 3,83		+ 4,13	15,037
2536	5	7 22,39	6	7 24,22	12	7 25,81	28 7 24,65	7 28,14	7 32,04	—3,49	— 7,39	15,040
2537		—		5	33 37,52		111 33 37,52		33 35,98		+ 1,54	15,040
2538		—		5	35 35,81		103 35 35,81		35 33,38		+ 2,43	15,063
2539	5	50 19,56		—		—	25 50 19,56		50 21,47		+ 1,91	15,116
2540		—	4	27 34,98	2	27 35,03	100 27 35,00		27 27,63		+ 7,37	15,130
2541		—	5	26 35,69		—	66 26 35,69		26 37,70		— 2,01	15,144
2542		—		—	5	16 20,16	94 16 20,16		16 12,91		+ 7,25	15,150
2543	6	7 59,07		—		—	113 7 59,07	8 1,87	7 56,66	—2,80	+ 2,41	15,180
2544		—	5	32 42,39		—	64 32 42,39		32 38,69		+ 3,70	15,185
2545		—	5	55 3,33		—	111 55 3,33		54 59,60		+ 3,73	15,217
2546		—	5	31 58,66		—	112 31 58,66	32 2,74	31 54,66	—4,08	+ 4,00	15,298
2547		—	5	52 38,17		—	109 52 38,17		52 32,29		+ 5,88	15,378
2548		—	5	55 25,22		—	115 55 25,22		55 22,86		+ 2,36	15,387
2549		—	5	1 24,13		—	105 1 24,13		1 16,71		+ 7,42	15,429
2550		—	5	5 37,04		—	67 5 37,04		5 34,48		+ 2,56	15,479
2551	5	18 20,73	2	18 20,00	6	18 20,46	96 18 20,47	18 21,27	18 15,12	—1,25	+ 5,35	15,499
2552		—	5	19 40,35		—	115 19 40,35		19 35,41		+ 4,94	15,506
2553	6	11 48,83		—		—	44 11 48,83		11 50,31		— 1,48	15,530
2554		—	3	13 29,78		—	104 13 29,78		13 30,94		— 1,16	15,630
2555		—	5	49 42,00		—	110 49 42,00		49 36,97		+ 5,03	15,647
2556		—	5	59 31,90		—	110 59 31,90		59 27,38		+ 4,52	15,650
2557		—	5	11 48,49		—	114 11 48,49		11 48,87		— 0,38	15,660
2558		—	5	54 56,42		—	116 54 56,42		54 53,61		+ 2,81	15,702
2559	6	10 37,42		—	10	10 35,92	20 10 36,82	10 32,93	10 38,11	+3,89	— 1,29	15,708
2560	5	12 56,01		—		—	110 12 56,01	12 49,89	12 47,32		+ 8,69	15,770
2561	5	9 0,11		—	2	8 56,41	45 8 59,06	8 52,17	8 53,69	+6,89	+ 5,37	15,771
2562	5	36 7,86		—		—	98 36 7,86	36 12,99	36 6,42	—5,13	+ 1,44	15,831
2563		—	5	7 56,02		—	84 7 56,02		7 48,57		+ 7,45	15,861
2564		—	5	25 58,12		—	71 25 58,12		25 55,25		+ 2,87	15,890
2565	5	59 0,40	1	59 2,34		—	84 59 0,72		58 51,19		+ 9,53	15,902

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832.			Green Catal.	A. S. Catal.	Difference from		Annual Preces- sion.
			No. 1831	No. 1832	No. 1833						Green.	A. S.	
			s.	s.	s.	h.	m.	s.	s.	s.	s.	s.	s.
2566	4	40 Capricorni γ	5 46,72	—	5 46,50	21	30	46,68	46,53	46,26	+0,15	+0,42	+ 3,322
2567	5.6	25 Aquarii d	—	5 1,86	—	21	31	1,86	—	1,91	—	-0,05	3,047
2568	6	42 Capricorni d^1	—	—	3 24,42	21	32	24,40	—	24,21	—	+0,19	3,280
2569	5	41 Capricorni	5 26,10	—	—	21	32	26,10	—	26,20	—	-0,10	3,426
2570	5	43 Capricorni κ	4 15,96	6 16,22	—	21	33	16,11	16,24	15,67	-0,13	+0,44	3,353
2571	5	9 Cephei	—	5 24,45	7 24,14	21	33	24,42	—	23,75	—	+0,67	1,610
2572	6	26 Aquarii	—	5 36,06	—	21	33	36,06	—	36,02	—	+0,04	3,061
2573	6	Capricorni	—	4 49,23	—	21	33	49,22	—	48,52	—	+0,70	3,364
2574	5.6	7 Pegasi T^2	—	—	5 51,19	21	33	51,20	—	50,77	—	+0,43	3,000
2575	6	44 Capricorni d^2	—	5 54,08	—	21	33	54,06	—	53,73	—	+0,33	3,284
2576	6	45 Capricorni d^3	—	3 50,29	1 50,05	21	34	50,21	—	49,85	—	+0,36	3,288
2577	4.5	9 Piscis Aust ι	6 55,39	—	—	21	34	55,39	55,16	54,91	+0,23	+0,48	3,598
2578	2.3	8 Pegasi ϵ	6 56,16	—	—	21	35	56,16	56,15	55,98	+0,01	+0,18	2,942
2579	6	46 Capricorni c^1	—	3 2,66	—	21	36	2,65	—	1,76	—	+0,89	3,205
2580	4.5	80 Cygni π^1	3 8,37	—	6 8,08	21	36	8,21	8,31	7,73	-0,10	+0,48	2,118
2581	4.5	9 Pegasi g	—	2 33,42	3 33,53	21	36	33,60	33,56	33,63	+0,04	-0,03	2,835
2582	5	78 Cygni μ	—	6 38,05	—	21	36	38,07	—	37,56	—	+0,51	2,652
2583	4	10 Pegasi κ	—	2 2,36	2 2,62	21	37	2,52	2,57	2,37	-0,05	+0,15	2,706
2584	6.7	47 Capricorni c^2	—	—	4 18,34	21	37	18,33	—	18,01	—	+0,32	3,206
2585	5.6	48 Capricorni λ	—	—	3 29,16	21	37	29,15	29,40	28,38	-0,25	+0,77	3,236
2586	3.4	49 Capricorni δ	6 45,70	6 45,64	5 45,71	21	37	45,67	45,58	45,42	+0,09	+0,25	3,304
2587	5	10 Piscis Aust θ	5 51,60	—	—	21	37	51,60	—	51,72	—	-0,12	3,548
2588	6	12 Pegasi W	—	—	4 20,93	21	38	20,95	—	20,49	—	+0,46	2,752
2589	5.6	11 Pegasi	—	5 42,77	—	21	38	42,77	—	42,01	—	+0,76	3,042
2590	4.5	11 Cephei τ	—	5 25,68	—	21	39	25,78	25,97	24,08	-0,19	+1,70	0,892
2591	7	Aquarii	—	—	4 13,62	21	40	13,61	—	13,44	—	+0,17	3,151
2592	7	Aquarii	—	—	6 35,93	21	40	35,91	—	35,66	—	+0,25	3,252
2593	5	81 Cygni π^2	7 35,56	—	—	21	40	35,57	35,92	35,29	-0,35	+0,28	2,204
2594	4.5	10 Cephei σ	—	4 35,94	—	21	40	36,00	36,35	35,06	-0,35	+0,94	1,727
2595	5	78 Draconis z	—	4 58,68	—	21	40	58,81	—	57,93	—	+0,88	0,786
2596	6	13 Pegasi	—	5 9,28	—	21	42	9,29	—	8,84	—	+0,45	2,844
2597	5	14 Pegasi	6 24,92	—	—	21	42	24,92	—	25,01	—	-0,09	2,643
2598	4	Gruis γ	4 44,06	—	—	21	43	44,06	—	43,25	—	+0,81	3,657
2599	7	Aquarii	1 59,08	5 59,23	—	21	43	59,19	—	58,81	—	+0,38	3,131
2600	5	51 Capricorni μ	6 7,73	1 7,79	9 7,83	21	44	7,79	7,90	7,26	-0,11	+0,53	3,259
2601	6	15 Pegasi	—	5 0,19	—	21	45	0,18	—	59,51	—	+0,67	2,673
2602	6.7	Aquarii p	—	5 23,73	—	21	45	23,73	—	23,58	—	+0,15	3,134
2663	5.6	16 Pegasi B	—	5 25,51	—	21	45	25,52	—	25,14	—	+0,38	2,721
2604	5	Indi δ	4 26,15	2 25,91	—	21	46	26,02	—	25,06	—	+0,96	4,151
2605	5	17 Pegasi	2 45,27	3 45,10	2 44,88	21	48	45,09	—	44,42	—	+0,67	2,924
2606	6.7	Aquarii	—	6 21,01	—	21	49	21,00	—	20,48	—	+0,52	3,359
2607	6.7	Aquarii c	—	5 24,99	—	21	49	24,99	—	24,19	—	+0,80	3,147
2608	9	12 Piscis Aust η	—	5 10,26	—	21	51	10,22	—	10,63	—	-0,41	3,467
2609	6	18 Pegasi A	—	5 44,40	—	21	51	44,40	—	44,12	—	+0,28	2,995
2610	6	28 Aquarii	—	5 29,07	—	21	52	29,07	—	28,81	—	+0,26	3,071

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Green- wich. Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precession	
	No.		No.		No.					Green	A. S. C.		
	1831		1832		1833								
	"		"		"		"	"	"	"	"	"	
2566	5 24 58,05						107 24 58,05	25 0,17	24 55,86	-2,12	+ 2,19	-15,936	
2567			6 30 25,34				88 30 25,34		30 23,17		+ 2,17	15,950	
2568							104 47 —		47 27,82			16,022	
2569	5 1 4,59						114 1 4,59		1 0,43		+ 4,16	16,024	
2570	6 37 39,88						109 37 39,88	37 38,76	37 34,59	+1,12	+ 5,29	16,067	
2571	6 40 23,36						28 40 23,36		40 26,91		— 3,55	16,077	
2572			4 28 33,69				89 28 33,69		28 27,31		+ 6,38	16,085	
2573			5 23 2,67				110 23 2,67		22 57,72		+ 4,95	16,096	
2574			5 4 57,15				85 4 57,15		4 46,66		+ 10,49	16,098	
2575			4 9 52,68	1	9 52,00		105 9 52,54		9 42,36		+ 10,18	16,100	
2576			5 30 56,19				105 30 56,19		30 49,98		+ 6,21	16,149	
2577	4 47 14,07		1 47 16,20				123 47 14,49		47 11,07		+ 3,42	16,153	
2578	5 53 29,36			5	53 30,87		80 53 30,11	53 29,45	53 24,80	+0,66	+ 5,31	16,206	
2579			5 51 2,13				99 51 2,13		50 51,14		+ 10,99	16,211	
2580	5 34 30,48			1	34 31,07		39 34 30,58	34 28,27	34 27,62	+2,31	+ 2,96	16,218	
2581	2 24 55,90		3 24 57,28	2	24 58,36		73 24 57,19	25 1,17	24 56,68	-3,98	+ 0,51	16,239	
2582	4 0 46,54						62 0 46,54		0 45,36		+ 1,18	16,242	
2583			1 7 27,82	5	7 27,45		65 7 27,51	7 25,73	7 19,88	+1,78	+ 7,63	16,263	
2584			5 2 51,88				100 2 51,88		2 44,10		+ 7,78	16,276	
2585			5 8 12,23	3	8 10,57		102 8 11,61	8 11,72	8 7,34	-0,11	+ 4,27	16,285	
2586	5 53 7,94						106 53 7,94	53 6,02	53 1,48	+1,92	+ 6,46	16,299	
2587			2 40 17,56	3	40 14,97		121 40 16,01		40 10,55		+ 5,46	16,304	
2588			5 49 16,64				67 49 16,64		49 15,56		+ 1,08	16,330	
2589				5	5 11,56		88 5 11,56		5 3,36		+ 8,20	16,347	
2590	6 27 40,74						19 27 40,74	27 41,50	27 41,71	-0,76	— 3,97	16,386	
2591			4 10 43,21				96 10 43,21		10 40,88		+ 2,33	16,424	
2592			5 30 3,07				103 30 3,07		30 6,04		— 2,97	16,442	
2593	5 27 54,98			5	27 55,29		41 27 55,13		27 51,91		+ 0,22	16,444	
2594	5 39 11,00						29 39 11,00	39 9,46	39 11,84	+1,54	— 0,84	16,444	
2595	5 26 53,63						18 26 53,63		26 58,80		— 5,17	16,465	
2596			4 29 27,89				73 29 27,89		29 26,52		+ 1,37	16,520	
2597	1 36 21,25		2 36 18,77	4	36 20,37		60 36 20,01		36 14,09		+ 5,95	16,534	
2598	5 9 1,10						128 9 1,10		8 57,43		+ 3,67	16,596	
2599			6 46 44,31				94 46 44,31		46 40,00		+ 4,31	16,610	
2600	5 20 18,69						104 20 18,69	20 18,54	20 12,61	+0,15	+ 6,08	16,617	
2601			5 59 21,24				61 59 21,24		59 20 31		+ 0,93	16,660	
2602			5 3 42,30				95 3 42,30		3 32,38		+ 9,92	16,679	
2603			5 51 46,34				64 51 46,34		51 39,07		+ 7,27	16,681	
2604	5 47 9,16						145 47 9,16		46 57,29		+ 11,87	16,727	
2605			5 43 1,77				78 43 1,77		42 58,20		+ 3,57	16,840	
2606			5 58 48,56				111 58 48,56		58 48,90		— 0,34	16,867	
2607			5 13 1,97				96 13 1,97		12 57,42		+ 4,55	16,871	
2608			5 15 20,12	2	15 17,24		149 15 19,30		15 15,26		+ 4,04	16,953	
2609			5 5 1,96				84 5 1,96		4 56,05		+ 5,91	16,980	
2610			4 11 58,53				90 11 58,53		11 49,78		+ 8,75	17,015	

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	NAMES.	Mean A. R. January 1, 1832, from Observations in						Mean A. R. January 1, 1832.	Green. Catal.	A. S. Catal.	Difference from		Annual Preces- sion.
			No. 1831		No. 1832		No. 1833					Green	A. S.	
			s.	s.	s.	h.	m.	s.						
2611	6	19 Pegasi	—	5 48,96	—	21 52 48,96	—	—	s.	48,93	s.	+0,03	+2,976	
2612	5.6	20 Pegasi	—	—	6 54,57	21 52 54,58	—	—	—	54,02	—	+0,56	2,914	
2613	6	29 Aquarii	x	—	4 14,56	5 14,47	21 53 14,51	—	—	15,45	—	-0,94	3,293	
2614	5.6	30 Aquarii	—	2 26,00	4 26,12	—	21 54 26,08	—	—	25,83	—	+0,25	3,158	
2615	5	31 Aquarii	o	6 37,41	1 37,33	2 37,31	21 54 37,39	—	37,37	36,94	+0,02	+0,45	3,104	
2616	6	Aquarii	—	—	6 2,81	—	21 55 2,80	—	—	2,76	—	+0,04	3,431	
2617	5.6	21 Pegasi	b	—	4 4,64	—	21 55 4,64	—	—	4,17	—	+0,47	2,939	
2618	5.6	32 Aquarii	—	—	3 8,98	4 8,89	21 56 8,93	—	—	8,40	—	+0,53	3,089	
2619	3	34 Aquarii	a	9 9,20	8 9,26	29 9,24	21 57 9,24	—	9,27	9,04	-0,03	+0,20	3,082	
2620	5	22 Pegasi	v	5 12,39	—	—	21 57 12,39	—	—	12,25	—	+0,14	3,018	
2621	7	Aquarii	—	—	5 16,34	—	21 57 16,34	—	—	12,80	—	+3,54	3,142	
2622	4.5	33 Aquarii	i	8 21,47	1 21,55	—	21 57 21,48	—	21,44	21,48	+0,04	0,00	3,247	
2623	2	Gruis	a	4 36,56	—	—	21 57 36,56	—	—	36,66	—	-0,10	3,818	
2624	6	23 Pegasi	—	—	4 58,55	—	21 57 58,57	—	—	57,94	—	+0,63	2,705	
2625	5	17 Cephei	ξ	3 56,20	3 55,80	—	21 58 56,03	—	—	54,54	—	+1,49	1,699	
2626	4	24 Pegasi	z	3 11,75	1 11,46	—	21 59 11,68	—	11,79	11,69	-0,11	-0,01	2,761	
2627	5.6	35 Aquarii	—	—	5 45,75	—	21 59 45,74	—	45,63	45,37	+0,11	+0,37	3,303	
2628	6	25 Pegasi	—	—	5 57,16	—	21 59 57,17	—	—	56,83	—	+0,34	2,813	
2629	7	36 Aquarii	—	—	3 33,64	—	22 0 33,64	—	—	30,40	—	+3,24	3,174	
2630	6	37 Aquarii	—	—	—	5 33,73	22 1 33,72	—	—	33,44	—	+0,28	3,204	
2631	7	Aquarii	—	—	6 36,81	—	22 1 36,81	—	—	36,51	—	+0,30	3,123	
2632	6	38 Aquarii	e	—	—	6 38,36	22 1 38,35	—	—	38,17	—	+0,18	3,213	
2633	7	Aquarii	—	—	—	6 42,46	22 1 42,44	—	—	41,91	—	+0,53	3,336	
2634	4	26 Pegasi	θ	6 43,51	—	—	22 1 43,51	—	43,51	43,63	0,00	-0,12	3,006	
2635	6.7	Aquarii	q	—	—	6 47,98	22 1 47,97	—	—	47,56	—	+0,41	3,127	
2636	5	27 Pegasi	π ¹	2 47,33	2 47,35	—	22 1 47,35	—	—	47,71	—	-0,36	2,650	
2637	4	29 Pegasi	π ²	7 31,99	3 31,90	—	22 2 31,97	—	31,98	32,27	-0,01	-0,30	2,653	
2638	6	28 Pegasi	—	—	2 34,17	1 34,00	22 2 34,12	—	—	33,54	—	+0,58	2,828	
2639	7	Aquarii	—	—	5 19,24	—	22 3 19,23	—	—	17,54*	—	+1,69	3,205	
2640	7	39 Aquarii	—	—	5 21,94	—	22 3 21,93	—	—	21,68	—	+0,25	3,243	
2641	6	Pegasi	—	—	—	—	22 3 —	—	—	44,34	—	—	2,891	
2642	5.6	Piscis Aust. φ	—	—	—	1 17,39	22 4 17,36	—	—	16,67	—	+0,69	3,384	
2643	7	40 Aquarii	—	—	—	3 27,07	22 4 27,06	—	—	26,85	—	+0,21	3,214	
2644	6	16 Piscis Aust. λ	—	—	—	3 46,57	22 4 46,54	—	—	45,98	—	+0,56	3,419	
2645	6	41 Aquarii	F	—	5 0,79	—	22 5 0,77	—	—	0,47	—	+0,30	3,327	
2646	4	21 Cephei	ξ	—	4 2,02	—	22 5 2,08	—	2,25	1,21	-0,17	+0,87	2,064	
2647	7	Aquarii	—	—	4 6,49	—	22 5 6,49	—	—	5,55*	—	+0,94	3,128	
2648	5	Gruis	μ ¹	4 28,06	—	—	22 5 28,06	—	—	27,07	—	+0,99	3,649	
2649	5	Gruis	μ ²	6 18,64	—	—	22 6 18,64	—	—	18,41	—	+0,23	3,651	
2650	5	Lacertæ	m	—	5 40,54	—	22 6 40,56	—	—	40,25	—	+0,31	2,606*	
2651	3	Tucanæ	a	—	5 55,23	—	22 6 55,16	—	—	55,95	—	-0,79	4,216	
2652	6	Piscis Aust.	—	—	3 10,58	1 10,34	22 7 10,50	—	—	9,95	—	+0,55	3,387	
2653	6	42 Aquarii	—	—	—	2 47,96	22 7 47,95	—	—	47,00	—	+0,95	3,221	
2654	7	Aquarii	—	—	—	6 54,43	22 7 54,43	—	—	54,09	—	+0,34	3,095	
2655	4.5	43 Aquarii	θ	6 57,95	—	—	22 7 57,95	—	57,77	57,61	+0,18	+0,34	3,163	

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N.P.D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession	
	No.	1831	No. 1832				No. 1833	Green. A. S. C.		
2611	—	—	5 32 47,63	—	82 32 47,63	32 42,19	+	5,44	17,030	
2612	—	—	2 40 50,04	4 40 50,29	77 40 50,21	40 48,05	+	2,16	17,034	
2613	—	—	—	5 46 11,32	107 46 11,32	46 4,27	+	7,05	17,050	
2614	—	—	5 19 50,05	—	97 19 50,05	19 46,65	+	3,40	17,104	
2615	5 57 43,42	—	—	—	92 57 43,42	57 42,84	—3,95	+	0,58	17,112
2616	—	—	5 37 50,08	—	117 37 50,08	37 51,43	—	1,35	17,132	
2617	—	—	3 25 19,56	2 25 18,83	79 25 19,27	25 11,44	+	7,83	17,133	
2618	—	—	5 42 55,68	—	91 42 55,68	42 49,92	+	5,76	17,182	
2619	33 7 55,10	14 7 56,96	16 7 57,33	91 7 56,08	7 57,54	7 54,24	—1,46	+	1,84	17,227
2620	—	—	—	5 45 35,94	85 45 35,94	45 29,18	+	6,76	17,229	
2621	—	—	2 10 7,17	3 10 7,93	96 10 7,63	—	—	—	17,229	
2622	—	—	—	5 40 54,00	104 40 54,00	40 41,57	+2,62	+	12,43	17,236
2623	5 46 9,62	—	—	—	137 46 9,62	46 5,13	+	4,49	17,246	
2624	—	—	3 50 55,18	2 50 56,94	61 50 55,58	50 52,93	+	2,95	17,264	
2625	5 11 20,04	—	—	—	26 11 20,04	11 22,10	—	2,06	17,307	
2626	5 28 21,17	3 28 21,70	—	—	65 28 21,37	28 22,35	—0,98	+	6,20	17,318
2627	—	5 20 17,38	—	—	109 20 17,38	20 11,44	+	5,94	17,342	
2628	—	2 6 40,71	3 6 40,92	69 6 40,84	6 38,58	6 38,58	+	2,26	17,351	
2629	—	5 0 27,90	—	—	99 0 27,90	0 28,74	—	0,84	17,375	
2630	—	4 38 39,11	—	—	101 38 39,11	38 34,55	+	4,56	17,420	
2631	—	5 42 53,51	—	—	94 42 53,51	42 46,64	+	6,87	17,423	
2632	—	5 23 14,37	—	—	102 23 14,37	23 9,11	+	5,26	17,424	
2633	—	—	5 3 13,65	112 3 13,65	3 11,50	3 11,50	+	2,15	17,426	
2634	5 37 36,05	—	5 37 33,36	84 37 34,70	37 31,06	37 26,45	+3,64	+	8,25	17,428
2635	—	—	5 5 27,21	95 5 27,21	5 20,19	5 20,19	+	7,02	17,431	
2636	5 38 33,01	—	—	—	57 38 33,01	38 44,44	—	11,43	17,432	
2637	5 38 33,34	—	—	—	57 38 33,34	38 31,95	—2,52	+	1,39	17,463
2638	—	—	4 50 43,52	69 50 43,52	50 37,14	50 37,14	+	6,58	17,464	
2639	—	4 53 27,15	1 53 29,56	101 53 27,15	—	—	—	—	17,495	
2640	—	—	5 1 8,87	105 1 8,87	0 58,36	0 58,36	+	10,51	17,498	
2641	—	4 47 5,42	—	—	74 47 5,42	47 1,72	+	3,70	17,514	
2642	—	2 0 38,05	5 0 34,03	116 0 38,05	0 32,87	0 32,87	+	5,18	17,537	
2643	—	—	5 45 8,64	102 45 8,64	45 2,36	45 2,36	+	6,28	17,544	
2644	—	5 35 40,60	—	—	118 35 40,60	34 57,95	—	—	17,557	
2645	—	3 54 22,19	2 54 21,59	111 54 21,95	54 19,59	54 19,59	+	2,36	17,568	
2646	5 37 28,58	1 37 29,07	2 37 29,44	32 37 28,86	37 30,52	37 32,61	—1,66	—	3,75	17,570
2647	—	—	4 16 50,05	95 16 50,05	—	—	—	—	17,571	
2648	5 10 45,36	—	—	—	132 10 45,36	10 41,07	+	4,29	17,586	
2649	5 27 31,29	—	—	—	132 27 31,29	27 28,72	+	2,57	17,622	
2650	5 6 56,93	—	—	—	51 6 56,93	6 54,94	+	1,99	17,838*	
2651	5 5 30,34	—	—	—	151 5 30,34	5 22,93	+	7,41	17,647	
2652	—	5 43 51,46	—	—	116 43 51,46	43 47,37	+	4,09	17,658	
2653	—	5 39 52,49	—	—	103 39 52,49	39 52,92	—	0,43	17,683	
2654	—	5 25 47,38	—	—	92 25 47,38	25 46,39	+	0,99	17,688	
2655	5 36 55,13	—	—	—	98 36 55,13	36 56,93	—4,35	—	1,80	17,691

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832.			Green Catal.	A. S. Catal.	Difference from		Annual Preces- sion.		
			No. 1831 No. 1832 No. 1833								Green.	A. S.			
			s.	s.	s.	h.	m.	s.			s.	s.		s.	
2656	6	Aquarii			3 0,12	22	8 0,11		59,91		+0,20	+3,177			
2657	6.7	44 Aquarii			6 20,02	22	8 20,01		20,22		-0,21	3,136			
2658	5	1 Lacertæ	a	5 39,47			22 8 39,47		38,55		+0,92	2,599			
2659	4.5	23 Cephei	c	2 51,67	3 51,61	1 51,37	22 8 51,63	51,54	51,04	+0,09	+0,59	2,137			
2660	6	45 Aquarii	D		6 59,58		22 9 59,56		59,07		+0,49	3,224			
2661	6	46 Aquarii	p		5 21,37	1 21,36	22 11 21,37	21,35	21,61	+0,02	-0,24	3,161			
2662	5	30 Pegasi		6 0,43			22 12 0,43		0,05		+0,38	3,016			
2663	5	47 Aquarii	l		6 20,13		22 12 20,12		19,65		+0,47	3,318			
2664	4	48 Aquarii	γ		6 58,71		22 12 58,71	58,67	58,50	+0,04	+0,21	3,092			
2665	4.5	31 Pegasi	d	7 15,17			22 13 15,17	15,15	15,03	+0,02	+0,14	2,947			
2666	5.6	32 Pegasi	C		5 34,41		22 13 34,42		33,94		+0,48	2,757			
2667	5	2 Lacertæ	b	4 5,92		6 5,67	22 14 5,81		5,32		+0,49	2,458			
2668	6	49 Aquarii			4 8,49		22 14 8,48		8,36		+0,12	3,354			
2669	7	Aquarii		4 43,13	1 43,57		22 14 43,22		42,79		+0,43	3,152			
2670	5	Tucanæ	δ			4 17,56	22 15 17,38		16,51		+0,87	4,383			
2671	6	51 Aquarii	G		5 21,67		22 15 21,67		20,95		+0,72	3,127			
2672	6	50 Aquarii			1 26,70	2 26,61	22 15 26,62		26,69		-0,07	3,219			
2673	7	Aquarii				5 55,73	22 15 55,73		55,31		+0,42	3,089			
2674	5	52 Aquarii	π	7 41,90		5 41,84	22 16 41,88	41,80	41,55	+0,08	+0,33	3,063			
2675	6	Piscis Aust.				4 52,54	22 16 52,51		52,63		-0,12	3,334			
2676	4	3 Lacertæ	c	1 58,03	5 57,65	3 57,55	22 16 57,61	58,10	57,16	-0,49	+0,45	2,341			
2677	6.7	53 Aquarii	E ¹		6 26,42		22 17 26,41		26,66		-0,25	3,252			
2678	6.7	53 Aquarii	E ²		3 27,10		22 17 27,09		27,45		-0,36	3,252			
2679	5	4 Lacertæ	d	4 43,08			22 17 43,08		42,00		+1,08	2,413			
2680	5.6	34 Pegasi	H ¹		4 4,20		22 18 4,20		3,86		+0,34	3,033			
2681	4	Gruis	δ ¹	3 11,82			22 19 11,82		11,64		+0,18	3,625			
2682	5.6	35 Pegasi	H ²		5 21,47		22 19 21,47		20,69		+0,78	3,030			
2683	5	Gruis	δ ²		4 41,53	1 41,55	22 19 41,50		40,95		+0,55	3,627			
2684	4	55 Aquarii	ξ	5 10,80		1 10,83	22 20 10,83	10,82	10,53	+0,01	+0,30	3,077			
2685	6.7	Aquarii			4 2,31		22 21 2,31		1,29		+1,02	3,205			
2686	6	56 Aquarii	f			8 16,64	22 21 16,62		16,37		+0,25	3,222			
2687	6	37 Pegasi	H ³			5 28,54	22 21 28,53		28,24		+0,29	3,033			
2688	5	57 Aquarii	σ		5 45,14	3 54,05	22 21 45,10	45,09	45,10	+0,01	0,00	3,182			
2689	4	17 Piscis Aust.	β	4 56,24		2 56,30	22 21 56,23	56,30	56,24	-0,07	-0,01	3,431			
2690	6	58 Aquarii			5 46,71		22 22 46,71		46,49		+0,22	3,183			
2691	4.5	27 Cephei	δ	6 56,74			22 22 56,74	56,88	55,86	-0,14	+0,88	2,204			
2692	4	7 Lacertæ	g	3 23,09		2 22,81	22 24 23,02	23,17	22,88	-0,15	+0,14	2,436			
2693	6	39 Pegasi	K		4 28,91		22 24 28,92		28,38		+0,54	2,878			
2694	7	Aquarii			5 15,46		22 25 15,46		15,19		+0,27	3,167			
2695	6.7	60 Aquarii	H		4 23,40	2 23,33	22 25 23,38		22,95		+0,43	3,094			
2696	5	59 Aquarii	v	5 29,60			22 25 29,60	29,64	29,51	-0,04	+0,09	3,280			
2697	7	Aquarii			5 0,37	5 0,25	22 26 0,31		0,07		+0,24	3,071			
2698	4	62 Aquarii	γ	6 43,46			22 26 43,46	43,42	43,13	+0,04	+0,33	3,077			
2699	7	61 Aquarii	L		5 45,72		22 26 45,71		44,75		+0,96	3,243			
2700	5	Octantis	β				22 28 —		19,87			6,904			

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N. P. D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession
	No. 1831	No. 1832	No. 1833				Green.	A. S. C.	
2656	—	5 52 29,70	—	99 52 29,70	—	52 24,66	—	+ 5,04	17,692
2657	—	—	5 13 23,12	96 13 23,12	—	13 14,67	—	+ 8,45	17,706
2658	6 5 6,72	—	—	53 5 6,72	—	5 2,23	—	+ 4,49	17,719
2659	5 47 28,35	1 47 29,91	5 47 28,13	33 47 28,39	47 32,73	47 33,61	— 4,34	— 5,22	17,728
2660	—	5 8 31,06	—	104 8 31,06	—	8 28,78	—	+ 2,28	17,773
2661	—	5 39 37,85	—	98 39 37,85	39 31,52	39 33,27	+ 16,33	+ 4,58	17,828
2662	5 3 10,27	—	—	85 3 10,27	—	3 3,19	—	+ 7,08	17,854
2663	5 26 9,88	—	—	112 26 9,88	—	24 7,24	—	+ 122,64	17,867
2664	4 13 52,85	1 13 51,47	—	92 13 52,57	13 51,26	13 44,87	+ 1,31	+ 7,70	17,893
2665	—	5 38 14,78	4 38 15,14	78 38 14,94	38 18,26	38 12,58	— 3,32	+ 2,36	17,904
2666	—	5 30 45,01	—	62 30 45,01	—	30 44,65	—	+ 0,36	17,916
2667	5 18 25,00	—	—	44 18 25,00	—	18 26,46	—	— 1,46	17,937
2668	—	5 36 31,96	—	115 36 31,96	—	36 23,62	—	+ 8,34	17,938
2669	—	5 2 24,94	—	98 2 24,94	—	2 26,15	—	— 1,21	17,960
2670	4 49 0,37	—	2 49 0,85	155 49 0,53	—	48 46,22	—	+ 14,31	17,981
2671	—	—	5 41 4,08	95 41 4,08	—	40 58,38	—	+ 5,70	17,985
2672	—	4 22 42,05	1 22 42,58	104 22 42,15	—	22 35,85	—	+ 6,30	17,989
2673	—	—	5 2 12,72	92 2 12,72	—	2 11,33	—	+ 1,39	18,007
2674	6 28 21,88	—	—	89 28 21,88	28 21,12	28 17,18	+ 0,76	+ 4,70	18,037
2675	—	5 31 59,62	—	114 31 59,62	—	31 56,52	—	+ 3,10	18,043
2676	5 36 35,46	—	5 36 36,44	38 36 35,95	36 37,58	36 38,64	— 1,63	— 2,69	18,048
2677	—	4 35 30,15	3 35 32,41	107 35 31,12	—	35 32,82	—	— 1,70	18,065
2678	—	—	—	107 —	—	35 36,13	—	—	18,066
2679	5 22 21,57	—	—	41 22 21,57	—	22 24,62	—	— 3,05	18,076
2680	—	4 27 36,75	—	86 27 36,75	—	27 33,68	—	+ 3,07	18,089
2681	4 21 0,79	—	2 21 0,19	184 21 0,59	—	21 0,71	—	— 0,12	18,130
2682	—	5 8 38,41	—	86 8 38,41	—	8 27,65	—	+ 10,76	18,137
2683	3 36 22,26	2 36 22,57	—	134 36 22,38	—	36 14,72	—	+ 7,66	18,149
2684	5 52 37,80	—	5 52 35,45	90 52 36,62	52 38,64	52 34,88	— 2,02	+ 1,74	18,167
2685	—	5 46 17,66	—	103 46 17,66	—	—	—	—	18,198
2686	—	5 26 31,86	—	105 26 31,86	—	26 24,50	—	+ 7,36	18,208
2687	—	3 25 8,96	—	86 25 8,96	—	25 2,60	—	+ 6,36	18,215
2688	5 32 3,71	—	—	101 32 3,71	32 5,90	31 55,22	— 2,19	+ 8,49	18,225
2689	5 12 14,90	—	—	123 12 14,90	12 12,70	12 14,18	+ 2,20	+ 0,72	18,232
2690	—	5 45 47,63	—	101 45 47,63	—	45 42,01	—	+ 5,62	18,262
2691	5 26 32,07	—	5 26 33,89	32 26 32,98	26 31,32	26 34,42	+ 1,66	— 1,44	18,269
2692	5 34 46,46	1 34 46,38	5 34 46,19	40 34 46,33	34 45,50	34 45,32	+ 0,83	+ 1,61	18,320
2693	1 37 59,83	4 38 0,34	—	70 38 0,24	—	37 56,36	—	+ 3,88	18,323
2694	1 28 22,61	4 28 21,80	—	100 28 21,96	—	28 19,79	—	+ 2,17	18,350
2695	—	4 26 9,63	—	92 26 9,63	—	26 2,75	—	+ 6,88	18,355
2696	5 33 55,19	—	—	111 33 55,19	33 45,04	33 52,29	+ 10,15	+ 2,90	18,359
2697	—	—	5 16 2,81	90 16 2,81	—	15 54,11	—	+ 8,70	18,377
2698	5 58 52,44	—	—	90 58 52,44	58 52,04	58 44,02	+ 0,40	+ 8,42	18,402
2699	—	—	5 19 27,53	108 19 27,53	—	19 22,72	—	+ 4,81	18,402
2700	—	—	—	172 Invisible	—	14 50,51	—	—	18,453

Comparison of the Observed Places of the Principal Fixed Stars

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832			Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831	No. 1832	No. 1833						Green.	A. S.	
			s.	s.	s.	h. m. s.	s.	s.	s.	s.	s.	s.	
2701	6	63 Aquarii π	—	5 3,33	6 3,29	22 29 3,30	3,26	3,27	+0,04	+0,03	+3,114		
2702	6.7	64 Aquarii	—	5 25,52	—	22 30 25,52	—	25,53	—	-0,01	3,166		
2703	6	40 Pegasi Q^1	—	4 45,40	—	22 30 45,41	—	44,74	—	+0,67	2,897		
2704	7	Aquarii	—	5 16,06	—	22 31 16,06	—	15,27	—	+0,79	3,159		
2705	4	18 Piscis Aust	6 21,02	—	4 20,94	22 31 20,98	20,98	20,88	0,00	+0,10	3,336		
2706	6	41 Pegasi Q^2	—	5 39,17	—	22 31 39,18	—	38,67	—	+0,51	2,897		
2707	5	31 Cephei	4 36,61	—	—	22 31 36,31	—	36,74	—	-0,43	1,447		
2708	3	Gruis β	6 35,88	—	—	22 32 35,88	—	35,85	—	+0,03	3,617		
2709	5	30 Cephei	4 42,82	—	—	22 32 42,82	—	42,45	—	+0,37	2,105		
2710	3	42 Pegasi ζ	6 5,16	—	5 5,27	22 33 5,21	5,23	4,90	-0,02	+0,31	2,981		
2711	5	43 Pegasi σ	—	—	—	22 33 —	—	52,35	—	—	2,802		
2712	7	65 Aquarii ι	1 10,68	4 10,72	1 10,82	22 34 10,73	—	10,43	—	+0,30	3,163		
2713	7	Aquarii	—	3 15,22	3 15,02	22 34 15,21	—	14,44	—	+0,77	3,147		
2714	6	67 Aquarii N	—	—	6 27,71	22 34 27,70	—	27,65	—	+0,05	3,135		
2715	6.7	66 Aquarii g^1	—	—	6 32,30	22 34 32,28	—	32,09	—	+0,19	3,243		
2716	3	44 Pegasi η	—	5 8,32	2 8,30	22 35 8,34	8,21	7,87	+0,13	+0,47	2,796		
2717	5	Gruis η	—	5 16,30	—	22 35 16,25	—	15,79	—	+0,46	3,743		
2718	6	20 Piscis Aust \downarrow^1	—	5 18,83	—	22 36 18,82	—	18,54	—	+0,28	3,302		
2719	6	45 Pegasi	—	5 18,19	—	22 37 18,20	—	17,63	—	+0,55	2,910		
2720	5	46 Pegasi ξ	6 18,33	—	—	22 38 18,33	—	17,96	—	+0,37	2,975		
2721	4	Gruis ϵ	3 22,04	—	—	22 38 22,04	—	21,02	—	+1,02	3,670		
2722	4.5	47 Pegasi λ	6 26,81	—	2 26,80	22 38 26,81	26,83	27,23	-0,02	-0,42	2,873		
2723	6	68 Aquarii g^2	—	5 31,28	—	22 38 31,28	—	30,92	—	+0,36	3,242		
2724	6	69 Aquarii τ^1	1 46,99	6 47,38	3 47,19	22 38 47,28	48,09	46,85	-0,81	+0,43	3,192		
2725	6	70 Aquarii	—	7 39,56	2 39,65	22 39 39,57	—	39,97	—	-0,40	3,161		
2726	5.6	71 Aquarii τ^2	—	5 41,54	6 41,52	22 40 41,52	41,50	41,48	+0,02	+0,04	3,185		
2727	4	48 Pegasi μ	5 54,18	—	4 54,12	22 41 54,16	54,16	53,40	0,00	+0,76	2,872		
2728	5	22 Piscis Aust	5 10,22	—	—	22 43 10,22	—	10,11	—	+0,11	3,362		
2729	4	32 Cephei ι	1 43,48	—	—	22 43 43,48	43,16	42,27	+0,32	+1,21	2,118		
2730	4	73 Aquarii λ	7 50,88	—	3 50,82	22 43 50,85	50,78	50,40	+0,07	+0,45	3,133		
2731	5.6	49 Pegasi σ	—	5 53,71	—	22 43 53,71	—	53,03	—	+0,68	2,999		
2732	6	74 Aquarii K	—	5 37,90	2 37,61	22 44 37,82	—	37,99	—	+0,73	3,164		
2733	6	Pegasi	—	5 46,46	—	22 44 46,48	—	46,41	—	+0,07	2,945		
2734	5	Cephei e	1 50,12	—	—	22 44 50,12	—	—	—	—	2,297		
2735	3	76 Aquarii δ	6 43,73	—	1 43,72	22 45 43,73	43,75	43,53	-0,02	+0,20	3,196		
2736	6	78 Aquarii	—	5 49,33	—	22 45 49,33	—	48,93	—	+0,40	3,129		
2737	6	77 Aquarii	—	5 51,83	—	22 45 51,82	—	51,21	—	+0,61	3,199		
2738	6	1 Piscium	—	1 23,83	5 23,77	22 46 23,78	—	23,76	—	+0,02	3,067		
2739	7	Aquarii M^1	—	—	6 28,09	22 46 28,09	—	27,79	—	+0,30	3,112		
2740	5.6	50 Pegasi ρ	3 46,54	—	6 46,48	22 46 46,50	—	45,59	—	+0,91	3,010		
2741	1	24 Piscis Aust α	23 21,00	6 21,14	20 21,10	22 48 21,02	20,99	20,96	+0,03	+0,06	3,311		
2742	6	51 Pegasi	—	5 13,14	—	22 49 13,15	—	12,28	—	+0,87	2,921		
2743	6	52 Pegasi	—	6 47,78	—	22 50 47,78	—	47,59	—	+0,19	2,992		
2744	6.7	2 Piscium π^1	—	6 51,09	—	22 50 51,09	—	50,66	—	+0,43	3,068		
2745	5	Gruis ζ	5 55,34	—	—	22 50 55,34	—	54,78	—	+0,56	3,608		

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precessi- on.
	No.	1831	No.	1832	No.	1833				Green.	A. S. C.	
2701	2	5 36,26	5	5 35,69			95 5 35,85	5 32,65	5 25,23	+ 3,20	+ 10,62	-18,482
2702			5	53 57,76			100 53 57,76		53 49,85		+ 7,91	18,528
2703			5	20 41,27			71 20 41,27		20 36,77		+ 4,50	18,539
2704			6	14 6,39			100 14 6,39		14 4,08		+ 2,31	18,555
2705	5	54 56,83					117 54 56,83	55 0,35	54 56,96	-3,52	- 0,13	18,558
2706			4	11 27,65			71 11 27,65		11 20,07		+ 7,58	18,568
2707	5	13 38,47					17 13 38,47		13 38,49		- 0,02	18,569
2708	5	45 34,54					137 45 34,54		45 28,32		+ 6,22	18,599
2709	5	17 13,28					27 17 13,28		17 17,53		- 4,25	18,604
2710	5	2 41,42			5	2 41,05	80 2 41,42	2 35,03	2 29,85	+ 6,39	+ 11,57	18,615
2711	5	34 1,50					61 34 1,50		33 58,29		+ 3,21	18,641
2712			5	58 48,09			100 58 48,09		58 42,48		+ 5,61	18,650
2713			6	11 17,80			99 11 17,80		11 16,95		+ 0,85	18,652
2714			4	50 21,31	1	50 21,68	97 50 21,38		50 16,49		+ 4,89	18,659
2715					5	42 26,04	109 42 26,04		42 23,32		+ 2,72	18,662
2716	3	39 19,48	2	39 20,34	5	39 19,50	60 39 19,66	39 18,94	39 15,40	+ 0,72	+ 4,26	18,681
2717			3	22 53,19	3	22 51,33	144 22 52,26		22 48,55		+ 3,71	18,684
2718			5	7 2,68			116 7 2,68		6 58,22		+ 4,46	18,718
2719			5	30 59,96			71 30 59,96		30 51,61		+ 8,35	18,748
2720	5	41 8,06					78 41 8,06		41 2,79		+ 5,27	18,779
2721	5	11 52,35					142 11 52,35		11 51,82		+ 0,53	18,780
2722	3	18 56,97	3	18 56,30	5	18 58,00	67 18 57,25	18 58,68	18 49,83	-1,43	+ 7,42	18,784
2723			5	29 16,27			110 29 16,27		29 11,94		+ 4,33	18,786
2724			5	56 26,19			104 56 26,19	56 22,90	56 20,01	+ 3,29	+ 6,18	18,794
2725			5	26 23,94			101 26 23,94		26 18,77		+ 5,17	18,821
2726			4	28 38,37			104 28 38,37	28 37,16	28 32,37	+ 1,21	+ 6,00	18,851
2727	5	16 59,25	2	16 58,83	5	16 59,28	66 16 59,13	17 0,47	16 59,80	-1,34	- 0,67	18,887
2728	3	45 47,08					123 45 47,08		45 43,23		+ 3,85	18,924
2729	5	40 56,19					24 40 56,19	40 54,09	40 55,83	+ 2,10	+ 0,36	18,940
2730	5	28 13,56					98 28 13,56	28 17,48	28 14,46	-3,92	- 0,90	18,943
2731	3	3 21,90	3	3 22,17			81 3 22,03		3 17,51		+ 4,52	18,944
2732			5	30 24,04			102 30 24,04		30 25,16		- 1,12	18,965
2733			5	2 52,60			74 2 52,60		2 52,35		+ 0,25	18,970
2734	4	11 41,56			1	11 41,83	29 11 41,61		11 47,89		- 6,28	18,971
2735	7	42 43,17					106 42 43,17	42 43,12	42 37,40	+ 0,05	+ 5,77	18,996
2736			5	5 40,48			98 5 40,48		5 40,40		+ 0,08	18,999
2737			5	9 39,62			107 9 39,62		9 33,23		+ 6,39	19,000
2738	1	49 45,40	4	49 45,66			89 49 45,61		49 39,96		+ 5,65	19,015
2739			2	52 51,13	4	52 51,43	95 52 51,33		52 50,27		+ 1,06	19,017
2740	1	4 41,56	5	4 41,86			82 4 41,81		4 37,35		+ 4,46	19,025
2741	48	30 38,18	20	30 39,07	32	30 40,27	120 30 39,01	30 36,81	30 35,74	+ 2,20	+ 3,27	19,068
2742					6	7 51,35	70 7 51,35		7 43,82		+ 7,53	19,091
2743			5	10 1,59			79 10 1,59		9 58,80		+ 2,79	19,133
2744			6	56 0,11			89 56 0,11		55 54,05		+ 6,06	19,134
2745	5	39 5,53					143 39 5,53		39 6,95		- 1,42	19,136

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832		Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion		
			No. 1831	No. 1832	No. 1833	h. m.	s.			Green.	A. S.			
			s.	s.	s.			s.	s.	s.	s.			
2746	6	3 Piscium α^2	4	1,05	—	—	22 52	1,05	—	0,94	—	+0,11	+3,073	
2747	7	Piscium	—	—	6	9,48	—	22 52	9,48	—	8,96	+0,52	3,054	
2748	6	81 Aquarii	1	39,63	6	39,74	—	22 52	39,72	—	39,35	+0,37	3,122	
2749	7	Piscium	—	—	6	10,41	—	22 53	10,41	—	—	—	3,050	
2750	6	82 Aquarii	—	—	5	49,18	—	22 53	49,18	—	49,06	+0,12	3,118	
2751	4	1 Andromedæ α	6	12,48	—	—	4 12,41	22 54	12,47	12,47	11,78	0,00	+0,69	2,734
2752	5	4 Piscium β	6	19,84	—	—	—	22 55	19,84	19,71	19,35	+0,13	+0,49	3,049
2753	2	53 Pegasi β	2	38,26	—	—	—	22 55	38,26	38,36	38,13	-0,10	+0,13	2,878
2754	6	83 Aquarii h^1	—	—	5	24,16	3 23,95	22 56	24,08	23,89	23,74	+0,19	+0,34	3,124
2755	2	54 Pegasi α	17	23,89	18	23,93	30 23,94	22 56	23,93	23,94	23,66	-0,01	+0,27	2,975
2756	7	85 Aquarii h^3	—	—	5	7,95	—	22 57	7,94	7,53	8,05	+0,41	-0,11	3,124
2757	5	Cephei f	2	10,43	—	—	—	22 57	10,43	—	—	—	—	2,243
2758	5	Gruis θ	4	23,47	—	—	—	22 57	23,47	—	23,37	+0,10	—	3,422
2759	5.6	86 Aquarii c^1	—	—	5	38,70	—	22 57	38,69	—	38,56	+0,13	—	3,233
2760	5	55 Pegasi l	2	32,71	—	—	1 32,80	22 58	32,74	32,54	32,61	+0,20	+0,13	3,015
2761	4.5	56 Pegasi h	6	56,27	—	—	—	22 58	56,27	56,39	56,24	-0,12	+0,03	2,907
2762	6	Aquarii	—	—	5	15,09	—	22 59	15,08	—	14,59	-0,49	—	3,268
2763	6	5 Piscium A	—	—	4	4,83	2 4,81	23 0	4,83	—	4,24	+0,59	—	3,061
2764	4.5	88 Aquarii c^2	6	28,92	—	—	2 28,73	23 0	28,87	28,78	28,78	+0,09	+0,09	3,208
2765	5	Gruis ι	3	49,24	—	—	—	23 0	49,24	—	45,63	+3,61	—	3,424
2766	5	89 Aquarii c^3	—	—	1	55,92	—	23 0	55,91	—	55,83	+0,08	—	3,216
2767	5.6	57 Pegasi m	—	—	5	2,89	—	23 1	2,89	—	2,86	+0,03	—	3,022
2768	5	33 Cephei π	2	34,33	—	—	—	23 2	34,33	—	34,11	+0,22	—	1,875
2769	5.6	59 Pegasi p	—	—	4	15,51	—	23 3	15,51	—	15,53	-0,02	—	3,023
2770	6	60 Pegasi	1	40,78	5	40,44	—	23 3	40,51	—	40,41	+0,10	—	2,910
2771	5	7 Androm u	6	52,39	—	—	—	23 4	52,39	—	51,87	+0,52	—	2,708
2772	5	90 Aquarii ϕ	6	37,20	4	37,42	2 37,15	23 5	37,26	37,29	36,94	-0,03	+0,32	3,106
2773	5.6	91 Aquarii ψ^1	—	—	4	5,53	6 5,28	23 7	5,17	5,25	5,25	-0,08	-0,08	3,122
2774	4	Tucanæ γ	4	34,51	—	—	—	23 7	34,51	—	33,63	+0,88	—	3,577
2775	6	61 Pegasi	—	—	5	34,76	—	23 7	34,77	—	34,23	+0,54	—	2,911
2776	5.6	92 Aquarii α	—	—	5	8,37	5 8,27	23 8	8,31	8,04	8,43	+0,27	-0,12	3,114
2777	4.5	6 Piscium γ	5	27,37	7	27,53	—	23 8	27,46	27,46	27,26	0,00	+0,20	3,108*
2778	5	93 Aquarii ψ^2	1	10,22	6	10,27	—	23 9	10,26	10,27	10,35	-0,01	-0,09	3,121
2779	5	Ap. Sculp γ	6	44,40	—	—	—	23 9	44,40	—	44,18	+0,22	—	3,261
2780	5	8 Androm	3	58,59	—	—	—	23 9	58,59	—	57,98	+0,61	—	2,745
2781	5	95 Aquarii ψ^3	5	13,19	2	13,10	4 13,10	23 10	13,14	13,22	12,93	-0,08	+0,21	3,122
2782	6	94 Aquarii Z	—	—	5	16,34	—	23 10	16,33	—	16,09	+0,24	—	3,142
2783	6	96 Aquarii	—	—	5	41,35	5 41,31	23 10	41,32	41,28	41,06	+0,04	+0,26	3,098
2784	6	7 Piscium b	—	—	5	47,13	—	23 11	47,13	—	46,77	+0,36	—	3,046
2785	7	Aquarii	—	—	5	1,16	—	23 12	1,16	—	1,12	+0,04	—	3,101
2786	6	Aquarii T	—	—	5	17,90	—	23 12	17,89	—	17,75	+0,14	—	3,215
2787	5	62 Pegasi τ	5	19,99	—	—	—	23 12	19,99	—	19,45	+1,54	—	2,952
2788	6	97 Aquarii	1	50,45	4	50,64	—	23 13	50,60	—	49,90	+0,70	—	3,145
2789	5	98 Aquarii δ^1	6	8,45	—	—	—	23 14	8,45	—	7,86	+0,59	—	3,170
2790	6	65 Pegasi	—	—	7	19,23	—	23 14	19,24	—	19,19	+0,05	—	2,972

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in			Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from		Annual Precession		
	No. 1831	No. 1832	No. 1833				Green.	A. S. C.			
	"	"	"	"	"	"	"	"	"		
2746	4 42 53,08	3 42 54,40	—	90 42 53,65	—	42 47,62	—	+	6,03	19,165	
2747	—	4 53 0,39	—	87 53 0,39	—	52 58,17	—	+	2,22	19,168	
2748	—	4 57 36,86	2 57 37,86	97 57 37,19	—	57 31,73	—	+	5,46	19,181	
2749	—	—	6 22 3,18	87 22 3,18	—	22 2,96	—	+	0,22	19,194	
2750	—	5 28 24,22	—	97 28 24,22	—	28 19,12	—	+	5,10	19,210	
2751	5 34 28,16	2 34 25,33	5 34 27,41	48 34 27,37	34 30,63	34 31,53	—	3,26	—	4,16	19,220
2752	5 4 59,08	—	4 4 58,49	87 4 58,81	4 58,42	4 52,42	+	0,39	+	6,39	19,247
2753	5 49 35,54	—	—	62 49 35,54	49 37,42	49 32,38	—	1,88	+	3,16	19,255
2754	—	4 35 51,46	3 35 53,73	98 35 51,46	35 56,67	35 49,01	—	5,21	+	2,45	19,273
2755	37 41 50,14	25 41 50,06	26 41 50,20	75 41 50,14	41 48,33	41 44,79	+	1,81	+	5,35	19,273
2756	—	4 50 27,84	—	98 50 27,84	50 30,96	50 21,41	—	3,12	+	6,43	19,291
2757	—	—	5 41 40,41	23 41 40,41	—	41 45,37	—	—	—	4,96	19,291
2758	4 25 30,79	—	—	134 25 30,79	—	25 28,48	—	—	—	2,31	19,297
2759	—	5 38 57,52	—	114 38 57,52	—	38 51,93	—	—	—	5,59	19,303
2760	5 29 47,50	—	5 29 46,32	81 29 46,91	29 47,94	29 40,04	—	1,03	+	6,87	19,324
2761	—	5 26 13,82	5 26 14,82	65 26 14,32	26 12,53	26 6,90	+	1,79	+	7,42	19,333
2762	—	4 43 47,70	—	119 43 47,70	—	43 44,35	—	—	—	3,35	19,340
2763	—	3 47 1,93	—	88 47 1,93	—	47 1,90	—	—	—	0,03	19,359
2764	5 4 55,87	—	—	112 4 55,87	4 56,85	4 50,27	—	0,98	+	5,60	19,368
2765	5 9 15,14	—	—	136 9 15,14	—	9 17,03	—	—	—	1,89	19,374
2766	4 21 56,15	1 21 55,90	—	113 21 56,10	—	21 54,07	—	—	—	2,03	19,378
2767	1 13 55,00	4 13 55,78	—	82 13 55,63	—	13 48,71	—	—	—	6,92	19,381
2768	5 31 13,69	—	—	15 31 13,69	—	31 15,35	—	—	—	1,66	19,415
2769	4 11 27,01	—	—	82 11 27,01	—	11 21,56	—	—	—	5,45	19,429
2770	—	4 3 28,04	1 3 29,50	64 3 28,33	—	3 24,88	—	—	—	3,45	19,438
2771	4 30 36,25	2 30 35,22	5 30 37,87	41 30 36,80	—	30 38,11	—	—	—	1,31	19,464
2772	5 57 10,83	—	—	96 57 10,83	57 11,63	57 8,39	—	0,80	+	2,44	19,479
2773	—	4 0 8,97	—	100 0 8,97	0 7,36	0 0,65	+	1,61	+	8,32	19,509
2774	5 9 18,35	—	—	149 9 18,35	—	9 23,90	—	—	—	5,55	19,518
2775	—	5 39 57,89	—	62 39 57,89	—	39 56,17	—	—	—	1,72	19,518
2776	—	4 38 25,14	—	98 38 25,14	38 29,57	38 20,81	—	4,43	+	4,83	19,530
2777	5 38 1,85	6 38 2,10	5 38 2,41	87 38 2,12	38 3,21	38 1,63	—	1,09	+	0,49	19,536
2778	4 5 57,00	—	—	100 5 57,00	5 53,67	5 48,46	+	3,33	+	8,54	19,550
2779	4 26 42,69	—	1 26 42,90	123 26 42,73	—	26 43,30	—	—	—	0,57	19,560
2780	3 54 5,44	2 54 5,46	—	41 54 5,45	—	54 7,74	—	—	—	2,29	19,565
2781	—	5 31 41,96	—	100 31 41,96	31 40,86	31 34,18	+	1,10	+	7,78	19,570
2782	—	5 22 18,99	—	104 22 18,99	—	22 10,34	—	—	—	8,65	19,571
2783	—	5 2 26,18	—	96 2 26,18	2 27,03	2 25,45	—	0,85	+	0,73	19,578
2784	3 32 4,56	2 32 6,07	—	85 32 5,16	—	32 2,76	—	—	—	2,40	19,599
2785	—	5 49 25,50	—	96 49 25,50	—	49 20,08	—	—	—	5,42	19,603
2786	—	5 54 15,09	—	117 54 15,09	—	54 13,94	—	—	—	1,15	19,608
2787	5 10 59,51	—	—	67 10 39,51	—	10 36,43	—	—	—	3,08	19,609
2788	—	4 57 38,01	2 57 36,38	105 57 37,47	—	57 34,37	—	—	—	3,10	19,635
2789	5 0 59,15	—	—	111 0 59,15	—	0 57,88	—	—	—	1,27	19,641
2790	—	5 5 29,31	—	70 5 29,31	—	5 21,72	—	—	—	7,59	19,644

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. Greenh January 1, 1832			A. S. Catal.	Difference from		Annual Preces- sion
			No. 1831 No. 1832 No. 1833			h m. s.				Green.	A. S.	
			s.	s.	s.	s.	s.	s.				
2791	6	66 Pegasi	1 36,51	5 36,61	—	23 14 36,59	—	36,08	—	+0,51	+3,015	
2792	6.7	Piscium	—	5 54,93	—	23 14 54,93	—	54,51	—	+0,42	3,071	
2793	6	Aquarii	—	5 12,72	—	23 15 12,71	—	12,28	—	+0,43	3,177	
2794	5	68 Pegasi <i>v</i>	6 0,36	—	—	23 17 0,36	—	59,86	—	+0,50	2,965	
2795	5	99 Aquarii <i>b</i> ²	5 12,80	—	—	23 17 12,80	—	12,20	—	+0,60	3,166	
2796	5	4 Cassiopeæ <i>d</i>	1 24,25	—	1 24,40	23 17 24,39	24,35	23,67	+0,04	+0,72	2,615	
2797	6	Aquarii	—	6 43,74	—	23 17 43,73	—	43,32	—	+0,41	3,171	
2798	5.6	8 Piscium <i>z</i> ¹	—	6 19,45	7 19,31	23 18 19,37	19,41	18,40	—0,04	+0,97	3,067	
2799	6	9 Piscium <i>z</i> ²	—	5 38,54	—	23 18 38,54	—	38,27	—	+0,27	3,067	
2800	6	69 Pegasi	—	5 20,23	—	23 19 20,24	—	19,11	—	+0,83	2,962	
2801	5	10 Piscium <i>θ</i>	6 26,99	—	—	23 19 26,99	—	26,35	—	+0,64	3,046	
2802	5	Cephei <i>σ</i>	5 12,99	—	—	23 20 12,99	—	—	—	—	2,452	
2803	5	70 Pegasi <i>q</i>	1 39,78	—	—	23 20 39,78	—	39,40	—	+0,38	3,020	
2804	6.7	11 Piscium <i>ω</i> ¹	—	6 49,67	—	23 20 49,67	—	49,00	—	+0,67	3,079	
2805	7	Piscium	—	1 51,10	5 51,00	23 20 51,09	—	50,25	—	+0,84	3,090	
2806	7	12 Piscium <i>ω</i> ²	1 53,40	—	6 53,51	23 20 53,49	—	52,89	—	+0,60	3,076	
2807	5	Cassiopeæ	4 18,30	—	—	23 22 18,30	—	17,71	—	+0,59	2,722	
2808	7	13 Piscium <i>ω</i> ³	3 20,47	1 20,67	—	23 23 20,51	—	19,83	—	+0,68	3,076	
2809	7	Aquarii	—	—	7 29,68	23 23 29,67	—	29,81	—	—0,14	3,115	
2810	5	101 Aquarii <i>b</i> ⁴	6 28,72	—	—	23 24 28,72	—	28,61	—	+0,11	3,151	
2811	5	71 Pegasi <i>γ</i>	5 4,01	—	—	23 25 4,01	—	3,65	—	+0,36	2,988	
2812	6.7	14 Piscium <i>ω</i> ⁴	—	4 30,83	—	23 25 30,83	—	30,70	—	+0,13	3,076	
2813	5	Phœnicis <i>ι</i>	5 0,70	—	3 0,74	23 26 0,69	—	0,88	—	—0,19	3,256	
2814	6.7	Aquarii	—	5 52,15	—	23 26 52,15	—	51,67	—	+0,48	3,097	
2815	7	15 Piscium	—	5 53,48	—	23 26 53,48	—	52,76	—	+0,72	3,067	
2816	6	Aquarii	—	3 19,82	3 19,51	23 27 19,64	—	19,47	—	+0,17	3,169	
2817	6	16 Piscium	—	—	6 49,08	23 27 49,08	—	49,11	—	—0,03	3,064	
2818	6	Aquarii	—	4 56,84	—	23 28 56,83	—	56,38	—	+0,45	3,113	
2819	4.5	16 Androm <i>λ</i>	4 22,00	—	5 21,79	23 29 21,92	21,97	21,28	—0,05	+0,64	2,886	
2820	6	75 Pegasi <i>σ</i>	—	5 28,45	—	23 29 28,46	—	28,05	—	+0,41	3,012	
2821	5	Phœnicis <i>θ</i>	7 25,19	—	—	23 30 25,19	—	24,57	—	+0,62	3,257	
2822	5	102 Aquarii <i>ω</i> ¹	6 4,07	—	—	23 31 4,07	—	3,73	—	+0,34	3,114	
2823	4.5	17 Piscium <i>ι</i>	6 18,65	4 18,75	4 18,77	23 31 18,72	18,73	18,67	—0,01	+0,05	3,054	
2824	5	19 Androm <i>χ</i>	3 9,32	—	—	23 32 9,32	—	8,97	—	+0,35	2,914	
2825	6	Aquarii	—	5 27,19	—	23 32 27,19	—	26,73	—	+0,46	3,104	
2826	3	35 Cephei <i>γ</i>	—	7 30,61	—	23 32 30,86	31,30	29,58	—0,44	+1,28	2,390	
2827	5	103 Aquarii <i>A</i> ¹	—	2 51,51	—	23 32 51,50	—	51,00	—	+0,50	3,123	
2828	5	104 Aquarii <i>A</i> ²	—	—	—	23 33 —	—	1,83	—	—	3,122	
2829	5	18 Piscium <i>λ</i>	1 28,62	—	6 28,71	23 33 28,69	28,67	28,48	+0,02	+0,21	3,066	
2830	5.6	105 Aquarii <i>ω</i> ²	—	4 0,54	—	23 34 0,53	—	0,55	—	—0,02	3,110	
2831	6	76 Pegasi	—	2 12,77	4 12,72	23 34 12,75	—	11,59	—	+1,16	3,027	
2832	5.6	77 Pegasi <i>ο</i>	—	5 49,68	—	23 34 49,68	—	49,30	—	+0,38	3,044	
2833	5	106 Aquarii <i>A</i> ³	6 29,07	—	—	23 35 29,07	—	28,77	—	+0,30	3,118	
2834	5	78 Pegasi <i>ι</i>	6 33,30	—	—	23 35 33,30	—	33,48	—	—0,18	2,991	
2835	7	Piscium	4 14,83	3 14,84	—	23 36 14,84	—	14,24	—	+0,60	3,053	

No.	Mean N. P. D. reduced to January 1, 18.2 from Observations in						Mean N. P. D. January 1, 1832.	Green- wich Cata- logue.	A. S. Cata- logue.	Difference from			Annual Precessi- on.
	No.	1831	No.	1832	No.	1833				Green.	A. S.	C.	
2791	3 36	17,32	—	—	3 36	15,42	78 36 16,37	—	36 18,57	—	—	2,20	—19,649
2792	—	—	4 37	48,92	1 37	49,56	90 37 49,01	—	37 46,82	+	—	2,19	19,654
2793	—	—	—	—	6 41	28,05	112 41 28,05	—	41 27,07	+	—	0,98	19,659
2794	5 31	7,75	—	—	—	—	67 31 7,75	—	31 8,93	—	—	1,18	19,689
2795	5 33	40,52	—	—	—	—	111 33 40,52	—	33 42,49	—	—	1,97	19,692
2796	5 38	15,26	—	—	6 38	16,22	28 38 15,78	38 20,15	38 22,18	—4,37	—	6,40	19,696
2797	2 39	46,07	3 39	45,69	—	—	112 39 45,82	—	39 49,12	—	—	3,30	19,701
2798	—	—	7 39	49,98	5 39	49,19	89 39 49,65	39 47,05	39 42,03	+2,60	+	7,62	19,710
2799	—	—	4 48	0,08	—	—	89 48 0,08	—	47 50,43	+	—	9,65	19,715
2800	—	—	—	—	5 45	17,46	65 45 17,46	—	45 14,96	+	—	2,50	19,726
2801	5 32	18,43	—	—	—	—	84 32 18,43	—	32 35,27	—	—	16,84	19,728
2802	5 33	51,98	—	—	—	—	20 33 51,98	—	33 50,34	+	—	1,64	19,740
2803	5 9	53,77	—	—	—	—	78 9 53,77	—	9 49,07	+	—	4,70	19,746
2804	3 42	51,98	3 42	53,43	—	—	92 42 52,70	—	42 50,26	+	—	2,44	19,749
2805	—	—	1 26	49,40	4 26	51,23	95 26 50,86	—	26 46,13	+	—	10,73	19,749
2806	—	—	—	—	5 57	34,19	91 57 34,19	—	57 31,44	+	—	2,75	19,750
2807	5 22	34,54	—	—	—	—	32 22 34,54	—	22 36,79	—	—	2,25	19,771
2808	—	—	1 0	46,83	4 0	46,48	92 0 46,55	—	0 42,42	+	—	4,13	19,785
2809	—	—	2 28	11,62	3 28	16,77	102 28 11,11	—	28 11,09	+	—	0,02	19,787
2810	5 50	31,07	—	—	—	—	111 50 31,07	—	50 28,18	+	—	2,89	19,801
2811	6 25	35,03	—	—	—	—	68 25 35,03	—	25 28,08	+	—	6,95	19,809
2812	1 10	28,51	—	—	3 10	28,26	92 10 28,32	—	10 22,70	+	—	5,62	19,815
2813	5 32	30,59	—	—	—	—	133 32 30,59	—	32 28,00	+	—	2,59	19,821
2814	—	—	—	—	3 23	33,84	98 23 33,84	—	23 36,63	—	—	2,79	19,832
2815	—	—	3 36	53,24	2 36	52,53	89 36 52,96	—	36 49,32	+	—	3,64	19,832
2816	—	—	—	—	5 48	14,84	117 48 14,84	—	48 10,44	+	—	4,40	19,838
2817	—	—	5 49	42,70	—	—	88 49 42,70	—	49 37,97	+	—	4,73	19,844
2818	—	—	—	—	5 59	24,44	103 59 24,44	—	59 25,39	—	—	0,95	19,858
2819	6 27	6,93	1 27	6,18	4 27	7,40	44 27 7,06	27 3,76	27 0,13	+3,30	+	6,93	19,863
2820	—	—	5 31	43,25	—	—	72 31 43,25	—	31 49,04	—	—	5,79	19,864
2821	5 34	7,18	—	—	—	—	137 34 7,18	—	34 8,03	—	—	0,85	19,875
2822	5 9	5,08	—	—	—	—	105 9 5,08	—	8 54,54	+	—	10,54	19,882
2823	5 17	4,03	1 17	1,80	5 17	3,80	85 17 3,73	17 1,80	16 59,69	+1,93	+	4,04	19,335*
2824	5 35	42,28	—	—	—	—	46 35 42,28	—	35 44,72	—	—	2,44	19,894
2825	—	—	5 36	38,94	—	—	102 36 38,94	—	36 40,61	—	—	1,67	19,897
2826	4 18	15,84	1 18	14,43	—	—	13 18 15,56	18 17,35	18 20,20	—1,79	—	4,64	19,898
2827	4 57	16,50	2 57	14,23	—	—	108 57 15,74	—	57 11,09	+	—	4,65	19,901
2828	1 44	45,21	4 44	48,10	—	—	108 44 47,77	—	44 46,54	+	—	1,23	19,903
2829	3 8	36,73	1 8	35,89	1 8	36,91	89 8 36,52	8 38,54	8 37,92	—2,02	—	1,40	19,907
2830	—	—	5 28	25,20	—	—	105 28 25,20	—	28 18,52	+	—	6,68	19,913
2831	—	—	5 35	48,10	—	—	74 35 48,10	—	35 42,87	+	—	5,23	19,915
2832	—	—	4 36	4,02	—	—	80 36 4,02	—	35 57,96	+	—	6,06	19,921
2833	5 12	31,61	—	—	—	—	109 12 31,61	—	12 26,85	+	—	4,76	19,927
2834	5 34	3,11	—	—	—	—	61 34 3,11	—	34 6,02	—	—	2,91	19,928
2835	5 44	19,45	—	—	—	—	83 44 19,45	—	44 21,98	—	—	2,53	19,934

No.	Mag	Names.	Mean A. R. January 1, 1832, from Observations in			Mean A. R. January 1, 1832		Green ^b Catal.	A. S. Catal.	Difference from		Annual Preces- sion		
			No. 1831	No. 1832	No. 1833	h. m.	s.			s.	s.		s.	
			s.	s.	s.			s.	s.	s.	s.			
2836	6	107 Aquarii A ⁴	—	5 17,19	—	23 37	17,18	—	16,67	—	+0,51	+3,115		
2837	5	20 Androm ↓	6 43,99	—	—	23 37	43,99	—	44,83	—	—0,84	2,936		
2838	6	19 Piscium m	—	5 48,74	8 48,65	23 37	48,69	48,69	48 57	0,00	+0,12	3,062		
2839	6	Aquarii Y	—	6 36,83	1 36,85	23 38	36,83	—	36 58	—	+0,25	3,097		
2840	5	5 Cassiopeæ τ	4 52,97	—	—	23 38	52,97	—	52,24	—	+0,73	2,873		
2841	5.6	20 Piscium α	1 18,42	5 18,46	—	23 39	18,45	—	17,93	—	+0,52	3,076		
2842	6.7	Aquarii	—	5 54,50	—	23 39	54,50	—	54,34	—	+0,16	3,083		
2843	5	Draconis	3 55,86	—	—	23 39	55,86	—	55,59	—	+0,27	2,793		
2844	5	Ap. Sculp δ	6 10,01	—	—	23 40	10,01	—	9,56	—	+0,45	3,133		
2845	6	21 Piscium	7 51,57	—	—	23 40	51,57	—	51,42	—	+0,15	3,068		
2846	6	79 Pegasi	—	3 9,94	3 9,97	23 41	9,98	—	9,21	—	—0,77	3,010		
2847	6	Aquarii	—	3 34,65	—	23 41	34,65	—	33,83	—	+0,82	3,089		
2848	6	Aquarii	1 53,25	5 53,33	—	23 41	53,31	—	52,56	—	+0,75	3,097		
2849	5	Octantis γ ¹	—	—	—	23 41	—	—	56,11	—	—	3,926		
2850	6	108 Aquarii A ⁵	—	5 40,51	—	23 42	40,50	—	39,85	—	+0,65	3,105		
2851	7	80 Pegasi	—	5 47,27	—	23 42	47,27	—	47,34	—	—0,07	3,053		
2852	6	22 Piscium	—	5 22,12	—	23 43	22,12	—	21,74	—	+0,38	3,065		
2853	6	Aquarii	—	—	6 51,92	23 43	51,90	—	51,90	—	0,00	3,094		
2854	6	23 Piscium	—	—	5 52,29	23 43	52,31	—	52,16	—	+0,15	3,032		
2855	6	81 Pegasi φ	—	—	4 56,95	23 43	56,97	—	56,41	—	+0,56	3,087		
2856	6	82 Pegasi	—	2 3,56	4 3,50	23 44	3,53	—	3,28	—	+0,25	3,052		
2857	6.7	24 Piscium	1 17,87	—	6 17,94	23 44	17,92	—	17,73	—	+0,19	3,075		
2858	6.7	25 Piscium	—	5 28,78	—	23 44	28,78	—	28,07	—	+0,71	3,066		
2859	6.7	Piscium	4 10,96	2 10,96	—	23 46	10,96	—	10,88	—	+0,08	3,069		
2860	6	26 Piscium	6 32,44	5 32,44	—	23 46	32,44	—	32,13	—	+0,31	3,060		
2861	5	Octantis γ ²	—	—	—	23 48	—	—	1,78	—	—	3,651		
2862	5	Tucanæ η	6 42,75	—	—	23 48	42,75	—	41,64	—	+1,11	3,212		
2863	5.6	84 Pegasi ↓	1 12,59	4 12,78	—	23 49	12,73	—	12,61	—	+0,12	3,040		
2864	5	27 Piscium p	5 4,40	5 4,52	4 4,37	23 50	4,43	4,30	3,71	+0,13	+0,72	3,073		
2865	4.5	28 Piscium α	5 41,40	7 41,54	1 41,46	23 50	41,46	41,29	41,34	+0,17	+0,12	3,062		
2866	7	Piscium	—	4 3,60	—	23 51	3,60	—	2,88	—	+0,72	3,121*		
2867	5	Tucanæ ε	3 6,88	—	—	23 51	6,88	—	7,08	—	—0,20	3,189		
2868	5	Cassiopeæ	—	—	—	23 53	—	—	—	—	—	2,996		
2869	5	29 Piscium q	4 12,98	—	3 12,94	23 53	12,97	13,02	12,11	—0,05	+0,86	3,071		
2870	4.5	30 Piscium r	6 20,73	1 20,65	3 20,59	23 53	20,65	20,74	20,27	—0,09	+0,38	3,073		
2871	6	85 Pegasi	—	5 24,61	—	23 53	24,60	—	23,86	—	+0,74	3,109*		
2872	6	31 Piscium e ¹	—	5 48,31	—	23 53	48,31	—	47,83	—	+0,48	3,063		
2873	6	32 Piscium c ²	—	5 54,81	—	23 53	54,87	—	54,32	—	+0,55	3,063		
2874	4	2 Ceti g	6 7,78	6 7,85	—	23 55	7,81	7,27	7,72	+0,04	+0,09	3,078		
2875	6	3 Ceti p	—	6 54,01	—	23 55	54,01	—	53,96	—	+0,05	3,073		
2876	6.7	Piscium	—	6 27,35	—	23 56	27,35	—	26,91	—	+0,44	3,069		
2877	5	33 Piscium	7 44,20	—	4 44,17	23 56	44,19	44,23	43,89	—0,04	+0,30	3,070		
2878	6	86 Pegasi k	1 4,78	4 5,09	—	23 57	5,03	—	5,08	—	—0,05	3,064		
2879	7	4 Ceti	2 7,84	1 7,83	—	23 59	7,84	—	7,51	—	+0,33	3,068		
2880	7	5 Ceti	4 35,85	4 36,05	—	23 59	35,95	—	35,77	—	+0,18	3,068		
2881	1	21 Androm. α	29 43,24	23 43,15	15 43,13	23 59	43,19	43,20	42,72	—0,01	+0,47	+3,067		

No.	Mean N. P. D. reduced to January 1, 1832, from Observations in						Mean N.P.D. January 1, 1832.	Greenwich Catalogue.	A. S. Catalogue.	Difference from		Annual Precession			
	No. 1831		No. 1832		No. 1833					Green.	A. S. C.				
	'	"	'	"	'	"									
2836	—	—	5 36	46,35	—	—	109 36	46,35	36 42,32	—	+	4,03	19,943		
2837	6 30	45,81	—	—	—	—	44 30	45,81	30 43,02	—	+	2,79	19,947		
2838	—	—	4 26	38,78	—	—	87 26	38,78	26 35,36	26 41,51	—2,73	+	3,42	19,948	
2839	—	—	5 50	19,53	—	—	102 50	19,53	50 20,10	—	—	0,57	19,955		
2840	5 17	0,52	—	—	—	—	32 17	0,52	17 1,63	—	—	1,11	19,957		
2841	—	—	5 41	39,03	—	—	93 41	39,03	41 36,52	—	+	2,51	19,960		
2842	2 18	44,22	4 18	43,14	—	—	97 18	43,50	18 44,26	—	—	0,76	19,965		
2843	5 7	34,06	—	—	—	—	23 7	34,06	7 37,98	—	—	3,92	19,965		
2844	6 3	29,40	1 3	28,34	—	—	119 3	29,25	3 28,21	—	+	1,04	19,967		
2845	5 51	26,34	—	—	—	—	89 51	26,34	51 21,85	—	+	4,49	19,972		
2846	—	—	4 5	32,13	1 5	32,37	62 5	32,18	5 27,30	—	+	4,88	19,974		
2847	—	—	—	—	5 54	42,62	100 54	42,62	54 43,76	—	—	1,14	19,977		
2848	—	—	5 20	5,68	—	—	105 20	5,68	19 58,98	—	+	6,70	19,979		
2849	—	—	—	—	—	—	172	Invisible.	57 3,16	—	—	—	19,979		
2850	—	—	5 50	38,98	—	—	109 50	38,98	50 33,54	—	+	5,44	19,985		
2851	—	—	5 37	2,75	—	—	81 37	2,75	36 59,36	—	+	3,39	19,985		
2852	3 0	8,99	2 0	9,95	—	—	88 0	9,38	0 10,55	—	—	1,17	19,989		
2853	—	—	3 11	10,73	3 11	11,03	105 11	10,88	11 6,15	—	+	4,73	19,992		
2854	1 15	45,65	2 15	44,91	2 15	45,42	69 15	45,26	15 37,75	—	+	7,51	19,992		
2855	1 48	47,37	—	—	4 48	43,63	71 48	43,38	48 43,11	—	+	0,27	19,993		
2856	—	—	—	—	5 59	17,54	79 59	17,54	59 12,45	—	+	5,09	19,993		
2857	—	—	—	—	5 5	15,27	94 5	15,27	5 6,82	—	+	8,45	19,995		
2858	—	—	—	—	5 50	33,71	88 50	33,71	50 31,42	—	+	2,29	19,996		
2859	—	—	5 49	30,42	—	—	90 49	30,42	49 29,00	—	+	1,42	20,006		
2860	1 51	46,25	4 51	44,59	—	—	83 51	44,92	51 44,20	—	+	0,72	20,007		
2861	—	—	—	—	—	—	173	Invisible	6 4,85	—	—	—	20,015		
2862	1 13	41,11	—	—	—	—	155 13	41,11	14 25,84	—	—	41,73	20,018		
2863	3 47	30,76	2 47	32,01	1 47	32,67	65 47	31,49	47 27,32	—	+	4,17	20,020		
2864	5 29	16,79	—	—	—	—	94 29	16,79	29 16,55	29 16,55	29 12,30	+0,24	+	4,49	20,023
2865	5 3	57,54	4 3	58,57	3 3	58,38	84 3	58,10	3 59,82	3 59,82	3 58,77	—1,72	—	0,67	20,026
2866	—	—	5 49	33,05	—	—	96 49	33,05	49 30,48	—	+	2,57	20,027		
2867	—	—	5 30	38,94	—	—	156 30	38,94	30 31,77	—	+	7,17	20,027		
2868	5 42	47,29	—	—	—	—	29 42	47,29	42 45,48	—	+	1,81	20,033		
2869	5 57	43,40	—	—	—	—	93 57	43,40	57 45,89	57 45,89	57 40,69	—2,49	+	2,71	20,034
2870	5 56	51,37	—	—	—	—	96 56	51,37	56 52,03	56 52,03	56 48,81	—0,66	+	2,56	20,034
2871	4 48	22,25	1 48	22,54	—	—	63 48	22,31	48 34,67	—	—	12,36	18,884		
2872	—	—	6 58	41,93	—	—	81 58	41,93	58 39,45	—	+	2,48	20,035		
2873	—	—	5 26	51,12	—	—	82 26	51,12	26 53,29	—	—	2,17	20,035		
2874	5 16	15,56	—	—	—	—	108 16	15,56	16 15,52	16 15,52	16 9,97	+0,04	+	5,59	20,038
2875	—	—	5 26	39,05	—	—	101 26	39,05	26 35,61	—	+	3,44	20,039		
2876	2 26	9,06	1 26	10,54	—	—	91 26	9,55	26 6,71	—	+	2,84	20,040		
2877	5 38	48,34	—	—	—	—	96 38	48,34	38 51,70	38 51,70	38 50,05	—3,36	—	1,71	20,040
2878	—	—	3 32	18,04	1 32	18,70	77 32	18,20	32 19,03	—	—	0,83	20,041		
2879	—	—	6 28	59,43	—	—	93 28	59,43	28 57,29	—	—	2,14	20,042		
2880	5 22	55,16	—	—	—	—	93 22	55,16	22 52,14	—	—	3,02	20,043		
2881	50 50	13,12	42 60	13,46	9 50	12,85	61 50	13,24	50 14,37	50 14,37	50 13,26	—1,12	—	0,02	20,043

ERRATA IN THE CATALOGUE OF FIXED STARS.

No.	Column.				
60	Mean A. R.	for	1",21	read	1",26
101	{ A. R. 1832	—	4",62	—	7",72
	{ Mean A. R.	—	4",62	—	7",72
196	{ A. R. 1831	—	24",11	—	23",61
	{ Mean A. R.	—	24",11	—	23",61
281	Mean A. R.	—	2h. 3m.	—	2h. 32m.
465	Mean A. R.	—	3h.	—	4h.
772	{ N.P.D. 1831	—	43",73	—	43",11
	{ Mean N.P.D.	—	41",74	—	41",46
813	{ N.P.D. 1831	—	4",08	—	4",70
	{ N.P.D. 1832	—	0",58	—	1",97
	{ Mean N.P.D.	—	2",33	—	3",33
989	{ N.P.D. 1832	—	55'	—	53'
	{ Mean N.P.D.	—	55'	—	53'
1110	{ N.P.D. 1832	—	33",15	—	33",75
	{ Mean N.P.D.	—	33",61	—	33",91
1211	{ N.P.D. 1831	—	34' 58",25	—	35' 7",25
	{ Mean N.P.D.	—	34' 58",25	—	35' 7",85
1333	{ N.P.D. 1832	—	8",58	—	9",14
	{ Mean N.P.D.	—	10",16	—	10",53
1741	{ A. R. 1833	The seconds in these columns to be transferred to No. 1744.			
	{ Mean A. R.				
1752	Mean N.P.D.	for	106° 41'	read	106° 40'
1819	{ A. R. 1833	—	41",34	—	41",92
	{ Mean A. R.	—	41",36	—	41",94
1964	Mean A. R.	—	26",89	—	26",63
2205	Green. A. R.	—	36",18	—	36",78
2424	A. R.	—	29h.	—	20h.
2439	Diff. of A. R.	—	3",25	—	0",25
2536	{ N.P.D. 1831	—	22",39	—	23",48
	{ N.P.D. 1833	—	25",81	—	25",05
	{ Mean N.P.D.	—	24",65	—	24",49
2594	{ A. R. 1832	—	35",94	—	36",22
	{ Mean A. R.	—	36",00	—	36",28
2642	{ N.P.D. 1832	—	38",05	—	36",74
	{ Mean N.P.D.	—	38",05	—	34",81

N. B.—In addition to the above the differences should be corrected.

REMARKS UPON THE CATALOGUE OF FIXED STARS.

The casualties to which I have already alluded at the early part of this work as affecting the observations made with the Transit Instrument in 1832 and 1833, renders it desirable that a comparison should be made between the observations of these years and the observations of 1831, in which no uncertainty of any kind exists; for this purpose putting α α^1 &c. and β β^1 &c. to represent the errors in seconds of space of Azimuth and Collimation respectively, and selecting from the catalogue those Stars situated near the Pole (as affording large co-efficients) which have been observed in each of the three years, we have as follows.

From observations made in

1831

1832

1833.

NAMES.	N.P.D	A.R.	Mean } Place. }	+ A + C	Mean } Place. }	+ A + C	Mean } Place. }	+ A + C
		<i>h. m. s.</i>			<i>s.</i>		<i>s.</i>	
Draconis		11.27	12 4	13.20 + ,31 α + ,50 β	13.69 + ,31 α^1 + ,50 β^1	12.45 + ,31 α^{11} + ,50 β^{11}		
7 Urs. Min.	β	15.10	14 51	17.18 + ,22 + ,38	17.28 + ,22 + ,38	15.99 + ,22 + ,38		
Urs. Maj.		20. 3	10 30	54.76 + ,16 + ,29	55.06 + ,16 + ,29	54.60 + ,16 + ,29		
Cassiopei		23.21	2 15	20.50 + ,14 + ,25	20.43 + ,14 + ,25	19.82 + ,14 + ,25		
11 Draconis	α	24.49	13 59	50.64 + ,13 + ,24	50.97 + ,13 + ,24	50.19 + ,13 + ,24		
50 Ursæ. Maj.	α	27.21	10 53	17.49 + ,11 + ,22	17.40 + ,11 + ,22	17.31 + ,11 + ,22		
5 Cephei	α	28. 8	21 14	34.12 + ,10 + ,21	33.88 + ,10 + ,21	33.27 + ,10 + ,21		
29 Ursæ. Maj.	α	30.11	9 38	58.46 + ,09 + ,20	58.40 + ,09 + ,20	58.27 + ,09 + ,20		
18 Cassiopeiæ	ν	34.23	0 31	1.42 + ,08 + ,18	1.28 + ,08 + ,18	1.18 + ,08 + ,18		
64 Ursæ. Maj.	γ	35.22	11 44	57.42 + ,07 + ,17	57.50 + ,07 + ,17	57.54 + ,07 + ,17		
33 Draconis	γ	38.29	17 52	42.42 + ,06 + ,16	42.58 + ,06 + ,16	42.15 + ,06 + ,16		
33 Persei	α	40.44	3 12	22.05 + ,06 + ,15	22.14 + ,06 + ,15	21.94 + ,06 + ,15		
51 Persei	μ	42. 1	4 2	35.48 + ,05 + ,15	35.52 + ,05 + ,15	35.22 + ,05 + ,15		
13 Aurigæ	α	44. 1	4 4	17.46 + ,05 + ,14	17.48 + ,05 + ,14	17.22 + ,05 + ,14		
26 Persei	β	49.41	2 57	16.03 + ,04 + ,13	15.89 + ,04 + ,13	16.15 + ,04 + ,13		

Similarly we have the following observations made near to the South Horizon in the years 1831 1832 and 1833.

NAMES.	N.P.D	A.R.	Mean } Place. }	+ A + C	Mean } Place. }	+ A + C	Mean } Place. }	+ A + C
		<i>h. m. s.</i>			<i>s.</i>		<i>s.</i>	
Columbæ	α	124.10	5 33	34.14 — ,06 α + ,12 β	34.10 — ,06 α^1 + ,12 β^1	34.23 — ,06 α^{11} + ,12 β^{11}		
Columbæ	γ	125.18	5 51	34.86 — ,06 + ,12	34.98 — ,06 + ,12	35.02 — ,06 + ,12		
Eridani	ϵ	133.43	3 13	13.19 — ,07 + ,14	13.29 — ,07 + ,14	13.67 — ,07 + ,14		
Arg. in pup. L ¹		134.53	7 8	12.17 — ,08 + ,14	11.82 — ,08 + ,14	11.86 — ,08 + ,14		
Argus	ϕ	143.45	9 50	58.78 — ,10 + ,17	58.87 — ,10 + ,17	58.50 — ,10 + ,17		
Argus	δ	144. 5	8 40	3.76 — ,10 + ,17	3.93 — ,10 + ,17	4.21 — ,10 + ,17		
Eridani	α	148. 5	1 31	27.19 — ,12 + ,18	27.27 — ,12 + ,18	27.29 — ,12 + ,18		
Argus	ϵ	148.33	9 12	35.64 — ,12 + ,18	36.11 — ,12 + ,18	35.90 — ,12 + ,18		
Arg. in Car.	η	150.29	10 11	29.23 — ,13 + ,20	28.88 — ,13 + ,20	29.32 — ,13 + ,20		
Crucis	α^2	152. 9	12 17	18.98 — ,14 + ,21	18.69 — ,14 + ,21	19.16 — ,14 + ,21		
Arg. in Car.	ν	154.11	9 23	5.21 — ,15 + ,23	5.22 — ,15 + ,23	5.57 — ,15 + ,23		
Argus	ν	154.17	9 42	54.01 — ,15 + ,23	54.25 — ,15 + ,23	54.21 — ,15 + ,23		
Hydri	ξ	158.59	2 36	2.03 — ,18 + ,30	2.49 — ,18 + ,30	2.24 — ,18 + ,30		
Argus	β	159. 4	9 11	19.45 — ,18 + ,30	19.73 — ,11 + ,30	19.57 — ,18 + ,30		

Taking the mean of each set we obtain the following Equations.

$$\begin{aligned} 30''.57 + ,11 a + ,22 \beta &= 30''.63 + ,11 a' + ,22 \beta' = 30''.22 + ,11 a'' + ,22 \beta'' \\ 24''.90 - ,12 a + ,19 \beta &= 24''.97 + ,12 a' + ,19 \beta' = 25''.05 - ,12 a'' + ,19 \beta'' \end{aligned}$$

by subtraction we have

$$5''.67 + ,23 a + ,03 \beta = 5''.66 + ,23 a' + ,03 \beta' = 5''.17 + ,23 a'' + ,03 \beta''$$

shewing that the Azimuth correction for 1832 differs insensibly from that of 1831 and may consequently be assumed $= 0$, and that the observations for 1833 stand in need of the correction $2''.22$ of space on this account. Now the observations constituting the above result for 1833, were made between the 20th January and the end of October, during which period we employed the formulæ $\frac{96''.20 - N - S}{2}$ for computing the Azimuthal error, and traced *as well as circumstances would then permit* (see pages 41 and 42) that an alteration took place in the situation of the meridian marks in the same direction and to nearly the same amount with the correction now found on or about the 12th November; our present result however fixes the date of the alteration in question at a much earlier period; probably at the commencement of the year.

By adding the above Equations together we determine:

$$55''.47 - ,01 a + ,41 \beta = 55''.60 - ,01 a' + ,41 \beta' = 55''.27 - ,01 a'' + ,41 \beta''$$

from whence (assuming as above that 1831 is devoid of error i. e. that $a = \beta = 0$) we determine that the observations for 1832 require a correction for Collimation to the amount $- 0''.32$ and that those for 1833 require a correction $+ 0''.50$ or it appears on the whole, *that the observations of 1832 require no correction of consequence to reduce them to the tenor of those of 1831, and that those of 1833 up to November 12, require correction as follows.*

North Polar Distance.	Correction.	North Polar Distance.	Correction.
.	"	.	"
20	+ ,414	95	+ ,022
25	+ ,328	100	+ ,013
30	+ ,265	105	+ ,004
35	+ ,224	110	- ,007
40	+ ,187	115	- ,017
45	+ ,161	120	- ,028
50	+ ,139	125	- ,042
55	+ ,120	130	- ,055
60	+ ,104	135	- ,069
65	+ ,089	140	- ,087
70	+ ,077	145	- ,108
75	+ ,064	150	- ,133
80	+ ,054	155	- ,168
85	+ ,043	160	- ,220
90	+ ,033		

The above corrections not having been taken into account in obtaining the column "mean," our "difference from Greenwich" and "difference from A. S." exhibits the *true* difference for those cases where the Star has been observed in 1831 and 1832 only; as the Catalogue now stands out of the 687 comparisons between the Madras and Greenwich Catalogues there are

280 cases which do not exceed ,05s. of time.
 or 470 ——— ——— ——— ——— ,10s. ———
 or 615 ——— ——— ——— ——— ,20s. ———
 and 72 ——— ——— ——— ——— exceed ,20s. ———

Admitting the accuracy of the above corrections, (for it must I think be readily conceded that some such sort of correction is necessary) and neglecting those which are below ,05s. except in the case of the principal Stars; the following corrections of the column "Mean A. R. January 1, 1832" become necessary.

No.	Correc- tion.	No.	Correc- tion.	No.	Correc- tion.	No.	Correc- tion.	No.	Correc- tion.
46	— 0,15	459	+ 0,09	637	+ 0,10	776	+ 0,10	976	+ 0,09
89	+ 0,09	462	+ 0,06	638	+ 0,07	779	+ 0,09	979	+ 0,09
113	+ 0,08	479	+ 0,06	640	+ 0,07	780	+ 0,05	992	+ 0,09
153	+ 0,07	481	+ 0,06	649	+ 0,07	783	+ 0,05	998	+ 0,07
157	+ 0,07	484	+ 0,09	651	+ 0,06	785	+ 0,05	999	+ 0,11
180	+ 0,06	497	+ 0,11	654	+ 0,06	790	+ 0,03	1023	+ 0,06
211	+ 0,08	505	+ 0,03	655	+ 0,07	796	+ 0,09	1025	+ 0,09
220	+ 0,05	509	+ 0,06	656	+ 0,06	799	+ 0,08	1028	+ 0,06
242	+ 0,08	511	+ 0,05	657	+ 0,09	800	+ 0,10	1032	— 0,05
247	+ 0,18	512	+ 0,06	670	+ 0,06	801	+ 0,08	1054	+ 0,08
255	+ 0,09	516	+ 0,06	671	+ 0,08	808	+ 0,08	1055	+ 0,05
259	+ 0,07	519	+ 0,06	674	+ 0,09	809	+ 0,07	1058	+ 0,08
262	+ 0,06	522	+ 0,10	678	+ 0,08	811	+ 0,07	1082	+ 0,05
270	+ 0,06	531	+ 0,06	683	+ 0,07	817	+ 0,10	1099	+ 0,06
271	+ 0,05	536	+ 0,06	687	+ 0,10	828	+ 0,07	1102	— 0,05
277	+ 0,09	537	+ 0,06	688	+ 0,09	843	+ 0,06	1103	+ 0,05
283	+ 0,08	538	— 0,05	701	+ 0,06	851	+ 0,06	1120	— 0,09
301	+ 0,07	552	+ 0,24	704	+ 0,06	859	+ 0,07	1124	— 0,07
317	+ 0,08	572	+ 0,09	706	+ 0,07	861	+ 0,09	1131	+ 0,06
342	+ 0,07	573	+ 0,06	707	+ 0,07	864	+ 0,09	1133	— 0,12
344	+ 0,08	577	+ 0,13	708	+ 0,06	870	+ 0,09	1135	+ 1,24
346	+ 0,08	580	+ 0,05	716	+ 0,06	871	+ 0,09	1137	— 0,06
358	+ 0,09	581	+ 0,05	717	+ 0,10	889	+ 0,09	1144	— 0,06
362	+ 0,08	582	+ 0,05	720	+ 0,06	891	+ 0,10	1146	+ 0,09
369	+ 0,09	594	+ 0,09	721	+ 0,08	900	+ 0,06	1148	+ 0,22
374	+ 0,05	595	+ 0,08	723	+ 0,06	912	+ 0,05	1156	— 0,08
376	+ 0,09	596	+ 0,10	727	+ 0,11	919	+ 0,06	1158	+ 0,09
401	+ 0,08	601	+ 0,05	731	+ 0,08	922	+ 0,10	1175	+ 0,04
413	+ 0,09	602	+ 0,08	734	+ 0,04	926	+ 0,06	1179	+ 0,08
419	+ 0,09	609	+ 0,06	743	+ 0,10	927	+ 0,06	1181	+ 0,10
423	+ 0,09	611	+ 0,09	745	+ 0,08	931	+ 0,11	1182	— 0,07
430	+ 0,06	620	+ 0,06	754	+ 0,09	933	+ 0,05	1196	— 0,05
435	+ 0,08	623	+ 0,08	755	+ 0,07	939	+ 0,06	1209	+ 0,03
439	— 0,06	624	+ 0,07	766	+ 0,09	940	+ 0,07	1221	+ 0,06
451	+ 0,09	629	+ 0,07	768	+ 0,08	946	+ 0,09	1225	— 0,05
453	+ 0,10	634	+ 0,10	769	+ 0,08	948	+ 0,06	1229	— 0,06
457	+ 0,08	636	+ 0,10	771	+ 0,05	951	+ 0,07	1230	+ 0,07

CXXXIV REMARKS UPON THE CATALOGUE OF FIXED STARS.

No.	Correc- tion.	No.	Correc- tion.	No.	Correc- tion.	No.	Correc- tion.	No.	Correc- tion.
1236	+ 0,05	1575	+ 0,12	1870	+ 0,10	2091	+ 0,10	2342	+ 0,07
1240	+ 0,07	1599	+ 0,07	1876	+ 0,17	2094	+ 0,08	2347	+ 0,07
1255	+ 0,13	1607	+ 0,17	1879	+ 0,11	2111	+ 0,18	2353	+ 0,07
1266	+ 0,22	1616	+ 0,06	1880	+ 0,12	2113	+ 0,06	2358	+ 0,05
1273	— 0,06	1621	+ 0,07	1887	+ 0,13	2116	+ 0,10	2359	+ 0,09
1281	— 0,06	1625	+ 0,04	1895	+ 0,62	2117	+ 0,08	2362	+ 0,06
1285	+ 0,08	1628	+ 0,07	1899	+ 0,05	2121	+ 0,08	2370	+ 0,08
1291	+ 0,05	1639	+ 0,11	1903	+ 0,40	2134	+ 0,08	2377	+ 0,09
1294	— 0,05	1645	+ 0,08	1906	+ 0,21	2143	+ 0,13	2379	+ 0,09
1301	+ 0,11	1655	— 0,15	1918	+ 0,33	2146	+ 0,08	2380	+ 0,09
1305	+ 0,14	1658	+ 0,06	1926	+ 0,17	2156	+ 0,06	2381	+ 0,05
1329	+ 0,06	1664	+ 0,05	1927	+ 0,07	2158	— 0,12	2385	+ 0,08
1330	+ 0,06	1685	+ 0,10	1932	+ 0,05	2171	+ 0,13	2392	+ 0,09
1331	+ 0,06	1700	+ 0,34	1950	+ 0,33	2172	+ 0,23	2394	+ 0,17
1335	— 0,05	1708	+ 0,05	1955	+ 0,05	2173	+ 0,07	2398	— 0,11
1350	+ 0,23	1714	+ 0,06	1963	+ 0,13	2177	+ 0,05	2410	+ 0,05
1360	— 0,06	1722	— 0,16	1964	+ 1,33	2182	+ 0,08	2419	+ 0,05
1370	+ 0,09	1734	— 0,05	1976	+ 0,09	2192	+ 0,26	2420	+ 0,18
1379	+ 0,12	1735	— 0,07	1980	+ 0,05	2194	+ 0,06	2421	— 0,17
1404	+ 0,85	1745	+ 0,06	1982	+ 0,11	2200	+ 0,05	2428	+ 0,05
1406	+ 0,06	1748	+ 0,08	1987	+ 0,09	2209	+ 0,45	2435	+ 0,05
1407	+ 0,08	1765	+ 0,07	1996	+ 0,09	2219	+ 0,05	2436	+ 0,08
1421	+ 0,06	1766	— 0,06	1999	+ 0,06	2231	+ 0,08	2438	+ 0,08
1426	— 0,11	1767	+ 0,06	2001	— 0,07	2242	+ 0,13	2442	+ 0,06
1435	+ 0,06	1770	+ 0,05	2012	— 0,06	2259	+ 0,09	2458	+ 0,06
1436	+ 0,09	1775	+ 0,05	2013	+ 0,10	2263	+ 0,06	2480	+ 0,06
1440	+ 0,05	1783	+ 0,06	2014	+ 0,06	2267	+ 0,10	2485	+ 0,05
1447	+ 0,09	1784	+ 0,06	2015	+ 0,05	2279	+ 0,09	2488	+ 0,08
1451	+ 0,05	1786	+ 0,08	2016	+ 0,14	2283	+ 0,08	2499	+ 0,96
1455	+ 0,06	1791	+ 0,03	2026	+ 0,09	2292	+ 0,08	2526	— 0,17
1461	+ 0,08	1793	+ 0,07	2030	+ 0,39	2296	+ 0,10	2536	+ 0,16
1464	+ 0,05	1801	+ 0,07	2034	+ 0,07	2298	+ 0,07	2541	+ 0,09
1501	— 0,09	1809	+ 0,08	2038	+ 0,09	2303	+ 0,08	2559	+ 0,14
1504	+ 0,08	1819	+ 0,06	2041	+ 0,39	2307	+ 0,10	2571	+ 0,15
1505	+ 0,09	1822	+ 0,06	2053	+ 0,09	2314	+ 0,09	2588	+ 0,08
1507	+ 0,10	1830	+ 0,07	2059	+ 0,23	2315	+ 0,09	2612	+ 0,06
1508	+ 0,10	1832	+ 0,08	2060	+ 0,10	2324	+ 0,05	2667	+ 0,10
1512	— 0,06	1842	+ 0,26	2068	+ 0,07	2325	— 0,25	2751	+ 0,05
1520	+ 0,05	1843	+ 0,05	2071	+ 0,06	2330	+ 0,05	2755	+ 0,02
1534	+ 0,07	1844	+ 0,05	2081	+ 0,08	2332	+ 0,08	2854	+ 0,08
1541	+ 0,05	1867	+ 0,08	2087	+ 0,08	2341	+ 0,05		

When the corrections in the foregoing table are applied there appears to be
475 cases which do not exceed ,10s. of time.
or 627 ——— ——— ——— ——— ,20s. ———
and 60 ——— ——— ——— ——— exceed ,20s. ———

Among the latter class the following are those most deserving of notice.

No.		s.		h.	m.	s.
No. 115	α Urs. Min.	— 0,95	Madras	Mean	A. R.	1 0 2,19
			Greenwich	—	—	1 0 3,14
			Cambridge	—	—	1 0 1,80
No. 340	* Persei	+ 0,65	Madras Results of 1832 and 1833 agree.			
No. 371	* Camelopard.	+ 0,47	Madras Result differs only ,05s. from the Greenwich Observations of 1831.			
No. 400	* Persei	— 0,37	Madras Result differs only ,02s. from the Greenwich Observations of 1831.			

			s.	
No. 552	*	Camelopar.	+	0,54 This must be examined.
No. 603	β	Eridani	—	0,29 The Greenwich Result is no doubt about $\frac{1}{4}$ second too large.
No. 832	28	Geminorum	+	0,26 Must be examined.
No. 874		Camelopardi	—	0,28 The situation of this Star (being only $7^{\circ} 18'$ from the Pole) fully accounts for the difference.
No. 1106	κ	Canceri	+	0,36 Must be examined.
No. 1386	π	Virginis	+	0,66 The Greenwich place must be wrong.
No. 1417	c	Virginis	+	0,95 { Madras Result 49".42s. Greenwich — 48.47s. Cambridge — 49.22s. Greenwich is about 1s. wrong.
No. 1451	k	Comæ Ber.	—	0,23 The Greenwich Observations for 1831 differ + ,08s. from the Madras Result.
No. 1545	l^2	Virginis	—	0,27 The Greenwich Result is probably too large.
No. 1639	θ	Bootis	+	0,36 The Greenwich Result is probably too small.
No. 1754	γ^2	Urs. Min.	—	0,78 Only one observation: the Greenwich Observations for 1831 differ 0,29s. from the Madras Result.
No. 1832	π	Serpentis	—	0,39 The Greenwich Observations of 1831 differ 0,18s. from the Madras Result.
No. 1915	ϵ	Scorpii	—	0,46 The Greenwich Observations of 1831 differ 0,19s. from the Madras Result.
No. 1964	c	Urs. Min.	+	0,56 One observation.
No. 2032	D	Ophiuchi	+	0,43 The Greenwich Observations of 1831 differ 0,11s. and the Cambridge ,08s. from the Madras Result.
No. 2043	γ	Telescopii	+	0,29 The Greenwich place is probably too small.
No. 2090	S^2	Ophiuchi	—	0,29 The Greenwich place is probably too large.
No. 2148	δ	Urs. Min.	—	0,67 { Madras Result 29.54s. Greenwich — 30.21s. Cambridge — 29.31s.
No. 2274	π	Draconis	—	0,47 Requires examination.
No. 2321	δ	Cygni	—	0,33 Do. Do.
No. 2371	ρ	Draconis	—	0,45 The Greenwich Observations for 1831 differ only 0,10s. from the Madras Result.
No. 2454	a	Microscopii	+	0,29 Requires examination.
No. 2465	η	Cephei	—	0,30 The Greenwich Observations for 1831 differ only 0,10s. from the Madras Result.
No. 2489	ν	Cygni	—	0,25 The Greenwich place is probably too large.
No. 2593	π^2	Cygni	—	0,35 Requires examination.
No. 2676	c	Lacertæ	—	0,49 The Greenwich place must be too large.
No. 2724	τ^1	Aquarii	—	0,81 The Greenwich place is 1s. wrong.
No. 2756	h^3	Aquarii	+	0,41 The Greenwich place is probably too small.
No. 2776	χ	Aquarii	+	0,27 The Greenwich Observations of 1831 differ 0,15s. from the Madras Result.
No. 2826	γ	Cephei	—	0,44 Requires to be examined.

In the above comparison between the Madras and Greenwich Catalogues there now remain only 18 cases in which the difference exceeds a quarter of a second of time, the greater part of which will I apprehend be found to arise from *error* of result and *not* from the *uncertainty* attendant upon observation.

On looking over the column "Difference from A. S. C." a mere glance is sufficient to shew that the two Catalogues are not reckoned from the same Equinoctial point, a correction of about 0,30s. being necessary to reduce either Catalogue to the other; independant of this, it must be recollected that in the construction of the Society's Catalogue, proper motion was allowed only in 57 cases where it had been determined from "accurate observations" "to amount to 0,50s. in space (or 0,33s. in *time*)" since however accurate observations adapted to the purpose have not in many cases been available, it necessarily follows that the column of difference is further encumbered with the accumulated effect of proper motion, and consequently the discordances large or small cannot be looked upon as throwing any sort of doubt upon the accuracy of the Madras Results.

The discordancies most deserving attention are as follows.

				s.		
No.	21	ζ	Tucanæ	+	2,97	About one years precession;
No.	55		Ceti	+	3,57	Do. Do.
No.	79		Piscium	+	2,03	Do. Do.
No.	91		Cephei	+	5,62	N. P. D. 4° 39'.
No.	147	δ	Cassiopeæ	—	1,42	Greenwich differs 0,19s. from the Madras Result.
No.	256	κ	Eridani	+	1,96	Observed in two separate years at Madras.
No.	268		Ceti	+	4,13	Do. Do.
No.	296	ξ	Hydri	+	1,64	Observed in three separate years at Madras.
No.	340		Persei	+	4,78	Madras confirmed by Greenwich.
No.	346		Arietis	+	4,36	Observed in two separate years.
No.	439	γ	Hydri	+	1,38	Do. Do.
No.	442	34	Tauri	+	1,55	Do. Do.
No.	455	γ	Reticuli	+	2,11	Do. Do.
No.	500	θ	Reticuli	+	1,83	Madras Result re-examined;
No.	570	ι	Aurigæ	+	3,25	Do. Do.
No.	610	ζ	Doradus	—	1,26	Madras confirmed by Greenwich.
No.	658		Leporis	+	1,35	Observed in two separate years.
No.	661	χ	Aurigæ	+	8,21	Greenwich differs 0,14s. from the Madras Result.
No.	721		Tauri	+	1,50	} Madras Results re-examined.
No.	741	ε	Doradus	+	1,54	
No.	805		This place has apparently been put in by mistake, the observations no doubt pertain to No. 799.			
No.	835	q	Camelopardi	—	1,96	Greenwich differs 0,08s. from the Madras Result.
No.	996	16	Argus	+	1,38	} Madras Results re-examined.
No.	1132		Leonis	—	1,68	
No.	1135		Draconis	—	1,54	Observed in two separate years.
No.	1137	ι	Argus	+	1,87*	Observed in three separate years.
No.	1156	n	Arg. in Car.	—	3,11	Do. Do.
No.	1160	N	Arg. in Vel.	+	1,50	Observed in two separate years.
No.	1182	l	Arg. in Car.	+	1,53	Do. Do.
No.	1183	s	Sextantis	+	1,91	Madras Result re-examined.
No.	1208	f	Sextantis	+	1,49	Observed in three separate years.
No.	1229	q	Arg. in Car.	+	1,54	Madras Result re-examined.

			s.	
No. 1234	T	Arg. in Vel.	+ 1,80	Observed in two separate years.
No. 1240	G	Leonis Min.	+ 1,48	Madras confirmed by Greenwich.
No. 1247	I	Arg. in Car.	+ 2,15	Madras Result re-examined.
No. 1270	34	Sextantis	+ 1,70	Observed in two separate years.
No. 1273	θ^1	Argus	+ 1,97	Do. Do.
No. 1276	θ^2	Argus	+ 1,87	Do. Do.
No. 1360	λ	Centauri	+ 1,82	Do. Do.
No. 1406	δ	Crucis	+ 2,29	Do. Do.
No. 1421	ϵ	Crucis	+ 1,73	Do. Do.
No. 1426	α^1	Crucis	+ 1,68	Do. Do.
No. 1427	α^2	Crucis	+ 1,37	Observed in three separate years.
No. 1493	r	Comæ Ber.	+ 1,61	Observed in two separate years.
No. 1651		Libræ	— 1,55	} Madras Results re-examined.
No. 1653	α^1	Centauri	— 6,22	
No. 1654	α^2	Centauri +	— 6,35	
No. 1655	α	Circini	— 2,12	
No. 1714	i	Bootis	+ 1,44	Greenwich differs 0,47s.
No. 1964	ϵ	Ursæ Min.	+ 3,96	Do. Do. 0,56s.
No. 1992	δ	Aræ	— 1,59	Observed in two separate years.
No. 2067	a	Sagittarii ‡	+ 1,50	Re-examined.
No. 2148	δ	Ursæ Min.	+ 7,33	Cambridge confirms Madras.
No. 2158	θ	Pavonis	— 3,97	Observed in two separate years.
No. 2166	λ	Pavonis	— 1,56	} Madras Results re-examined.
No. 2278	ϵ	Aquilæ	+ 1,38	
No. 2325	ϵ	Pavonis	+ 1,16	
No. 2378	R	Sagittarii	+ 2,99	
No. 2399	κ	Cephei	+ 3,29	Greenwich differs 0,17s.
No. 2421	v	Pavonis	+ 1,56	Madras Result re-examined.
No. 2493	76	Draconis	— 1,97	Greenwich Observations for 1831 differ + 0,98s.
No. 2499	h	Cephei	+ 9,48	Do. Do. Do. — 0,26s.
No. 2590	τ	Cephei	+ 1,70	Do. Do. Do. — 0,19s.
No. 2621		Aquarii	+ 3,54**	Madras Result re-examined.

	Madras.	Nautical Almanac 1834.	Society's Catalogue.
	<i>h. m. s.</i>	<i>s.</i>	<i>s.</i>
* Mean A. R.	{ 9 12 35,75	38,19	33,88
+ January 1, 1832.	{ 14 28 16,25	18,58	22,60

‡ On the 27th of August 1834, I observed the interval between the transit of this Star and of No. 2078 with the Mural Circle Telescope.

	<i>m.</i>	<i>s.</i>
To be.....	2	18,46
Interval in the Madras Catalogue.....	2	18,65
— — — Ast. Soc. Catalogue.....	2	19,65

** On the 16 h of October 1834, I observed the interval between the transit of this Star and of No. 2630 with the Mural Circle Telescope.

	<i>m.</i>	<i>s.</i>
To be.....	4	17,60
Interval in the Madras Catalogue.....	4	17,30
— — — Ast. Soc. Catalogue.....	4	20,64

CXXXVIII REMARKS UPON THE CATALOGUE OF FIXED STARS.

No. 2625	ξ	Cephei	+	1,49	Greenwich Observations for 1831 differ + 0,20s.
No. 2629	36	Aquarii ***	+	3,24	Piazzi's Catalogue confirms the Madras Result.
No. 2639		Aquarii	+	1,69	} Madras Results re-examined.
No. 2765	ι	Gruis	+	3,61	
No. 2787	τ	Pegasi	+	1,54	

We now come to the examination of the North Polar Distance column and the "difference from Greenwich." From the results of Pages 131, &c. we might naturally expect, that (the computations being correctly performed) the result of one years observation if derived from 3 or 4 observations would never disagree to the amount of two seconds; whereas from the anomalies of Pages 122 and 123, a much larger amount of difference must be expected: selecting those cases where the largest difference of result occurs we have as follows.

No.	Obs.	Secs of	Differ-
	ervations.	N.P.D.	ence.
		s.	s.
352	5	give	48,04
	1	—	44,34
898	5	—	44,69
	5	—	48,32
928	5	—	53,50
	5	—	49,24
1015	5	—	35,39
	5	—	31,99
1110	5	—	38,07
	5	—	33,75
1223	5	—	32,76
	5	—	29,02
1333	2	—	13,31
	4	—	9,14
1360	5	—	28,74
	2	—	25,25
1526	4	—	58,91
	1	—	54,87
1700	3	—	31,71
	11	—	36,87
1904	1	—	34,74
	3	—	41,18
1981	2	—	26,66
	3	—	30,68
2301	2	—	45,55
	6	—	49,28
2433	3	—	58,08
	2	—	61,54
2561	5	—	60,11
	2	—	56,41

*** On the 16th of October 1834, I observed the interval between the transit of this Star and of No. 2630 with the Mural Circle Telescope.

	m.	s.
To be.....	1	0,20
Interval in the Madras Catalogue.....	1	0,08
— — — Ast. Soc. Catalogue.....	1	3,04

Neglecting the result No. 1904 from one observation, (for the Instrument might possibly have moved in the interval between the bisection and reading off) the largest discordance now met with is 5,16s. of which, more presently—from the remaining discordances (which it must be recollected are *extreme* ones,) it may be fairly inferred, *that the extreme error to which any result is liable does not often amount to two seconds of space and never exceeds two seconds and a half*—in comparing then two Catalogues such as the Madras and Greenwich, in which (in extreme cases) the errors may be expected to enter with opposite signs, it is proper to charge only *half* of the discordance as an error to either Catalogue; so that the extreme error of two seconds and a half just mentioned will occasionally give rise to a discordance of five seconds: in the column “difference from Greenwich” in which we can better learn the amount of these discordances

there are 177 cases in which the difference is less than 1s.

—	356.	—	—	—	—	2s.
—	492	—	—	—	—	3s.
—	592	—	—	—	—	4s.
—	631	—	—	—	—	5s.
and	36	—	—	—	is greater	5s.

Which are as follows:

			s.				
No.	59	+	5 37	Greenwich Observations for 1831 differ	+	1,89s.	
No.	162	+	8,33	Do.	Do.	Do.	+ 3,14s.
No.	178	—	5,65	Do.	Do.	Do.	— 3,09s.
No.	217	—	11,09	Do.	Do.	Do.	— 2,63s.
No.	269	+	5 06	Must be examined!			
No.	280	+	7,81	Greenwich Observations for 1831 differ	—	4,03s.	
No.	595	—	5,16	Must be examined!			
No.	735	+	5,10*	Do.	Do.		
No.	757	+	5,54	Do.	Do.		
No.	791	+	5,57	Do.	Do.		
No.	877	—	6 57	Greenwich Observations for 1831 differ	—	4,30s.	
No.	1179	+	5,04	Must be examined.			
No.	1254	+	5,01	Do.	Do.		
No.	1289	+	5,66	Do.	Do.		
No.	1607	+	5,39	Do.	Do.		
No.	1619	+	5,81	Do.	Do.		
No.	1665	+	5,63	Do.	Do.		
No.	1700	+	7,86	Do.	Do.		
No.	1803	+	5,30	Do.	Do.		
No.	1806	+	5,63	Do.	Do.		
No.	1816	+	7,73	Do.	Do.		

* The Cambridge place of this Star is about 50s. in error.

		s.		
No. 1837	+	5,28	Must be examined.	
No. 1986	+	5,69	Do.	Do.
No. 2028	—	5,03	Do.	Do.
No. 2079	+	10,18	Greenwich Observations for 1831 differ + 4,63s.	
No. 2106	+	5,11	Must be examined.	
No. 2187	+	9,48	Greenwich Observations for 1831 differ + 1,03s.	
No. 2196	+	5,87	Do.	Do. Do. Do. + 3,32s.
No. 2198	+	5,57	Must be examined.	
No. 2371	—	5,44	Do.	Do.
No. 2561	+	6,89	Greenwich Observations for 1817 differ — 8,17s.	
No. 2562	—	5,13	Must be examined.	
No. 2661	+	16,33	Greenwich Observations for 1831 differ — 2,63s.	
No. 2696	+	10,15	Do.	Do. for 1817 differ + 1,35s.
No. 2710	+	6,39	Must be examined.	
No. 2754	+	5,21	Do.	Do.

In the above list there are six Stars which have been observed at the Cambridge Observatory see (Vol. VI for 1833) of which No. 162 differs from the Madras Catalogue 0,94s. and No. 2754 by 1,68s.; of the other four cases, Nos. 1254, 1607 and 1619, agree to a fraction of a second with the Greenwich Catalogue; with regard to the remaining case (that of No. 1700 which likewise agrees with the Greenwich place to 1s.) it will be as well here to give the result of each observation made at Madras.

Mean N. P. D. of β Ursæ Minoris reduced to January 1, 1832.									
1832				1833					
January	24	15	9 36,11	January	11	15	9 36,69		
May	11	15	9 30,84		13	15	9 37,56		
	12	15	9 33,13		14	15	9 36,94		
	20	15	9 31,15		15	15	9 37,07		
					16	15	9 36,73		
					17	15	9 36,78		
					18	15	6 37,17		
					20	15	9 36,78		
					21	15	9 37,37		
					23	15	9 37,05		
					25	15	9 36,40		
				May	12	15	9 32,31		
Mean.....				32,81			15	9	36,49
Or taking the general Mean we have.....							15	9	35,57*
Differing + 7,67s. from the Greenwich Observations.									
And + 6,69s. — Cambridge —									

* Differing a little from the result given at Page LXXVII in which I had rejected the observation of January 24, 1832 and of May 12, 1833.

On recomputing the observations of this Star my attention was arrested by noticing that the observations or rather the results of January 1832 agreed with those of January 1833, and that those of May 1832 agreed with those of the same month in 1833—could the change from the damp morning air of the N. E. Monsoon in January to the hot and dry winds from the S. W. and West in the month of May have any thing to do with it? were the corrections for Aberration, &c. correctly computed? these with several other possible sources of error have been very frequently and carefully examined without eliciting any cause to explain this very extraordinary disagreement—the observations of Polaris above and below the pole in January 1833 when applied to the determination of the Index Error agreed perfectly* with the Stars otherwise situated but, β Ursæ Minoris disagreed to the above amount:

With regard to the column “difference from A. S. C.” the same objections applies to the N. P. D. as to the A. R. it will consequently only be necessary here to note the larger discordances, which are as follows.

		<i>m.</i>	<i>s.</i>	
No. 21	+	2	1,51	Or an Error of 2 <i>m.</i>
No. 40	+	0	55,60	Do. Do. 1 <i>m.</i>
No. 79	+	0	40,79	Had the proper motion mentioned by Piazzi been allowed in constructing the A. S. C. (— 1,25 <i>s.</i>), the difference would have been + 0,79 <i>s.</i>
No. 124	—	4	49,84	A discordance of 5 <i>m.</i> which must be re-examined.
No. 268	—	0	45,96	Presumed amount of Proper Motion.
No. 337	—	0	25,00	Do. Do.
No. 368	—	0	28,32	Do. Do.
No. 439	+	5	28,12	Only one observation—possibly the wrong Star.
No. 483	—	0	20,20	Presumed amount of Proper Motion.
No. 610	+	0	41,63	Do. Do.
No. 630	+	0	20,73	Do. Do.
No. 671	+	0	25,29	Do. Do.
No. 1141	+	0	16,32	One observation gave 29 <i>m.</i> 8,60 <i>s.</i> there are probably two Stars.
No. 1247	—	0	27,53	
No. 1414	+	0	8,35	Another Star has been observed twice which gives 66' 1 <i>m.</i> 31,75 <i>s.</i>
No. 1436	—	0	51,77	Presumed amount of Proper Motion.
No. 1655	+	0	22,21	Do. Do.
No. 1690	+	0	53,93	With reference to the difference in A. R. as well as in N. P. D. see Piazzi + our observations give about 1½ <i>s.</i> for P. M. in A. R. and about 2 <i>s.</i> in N. P. D.

* In selecting a Catalogue of Stars to be observed for the purpose of determining the Index Error I have rejected those which from the observations of 1831 differed to the amount of 2*s.* from the Madras Result.

+ Piazzi says—Exnostris observationibus annorum 1800 — 2 — 8 — 9, A. R. et declinatio crescere videntur, & magis declinatio, cujus annua variatio foret 1,0*s.* circiter: idem proxime habetur ex Monierio, qui unus stellam hanc ante nos observavit. Eadem duplex, & ipeius comes 0,7*s.* temporis præcedit parumper ad Anstrum.

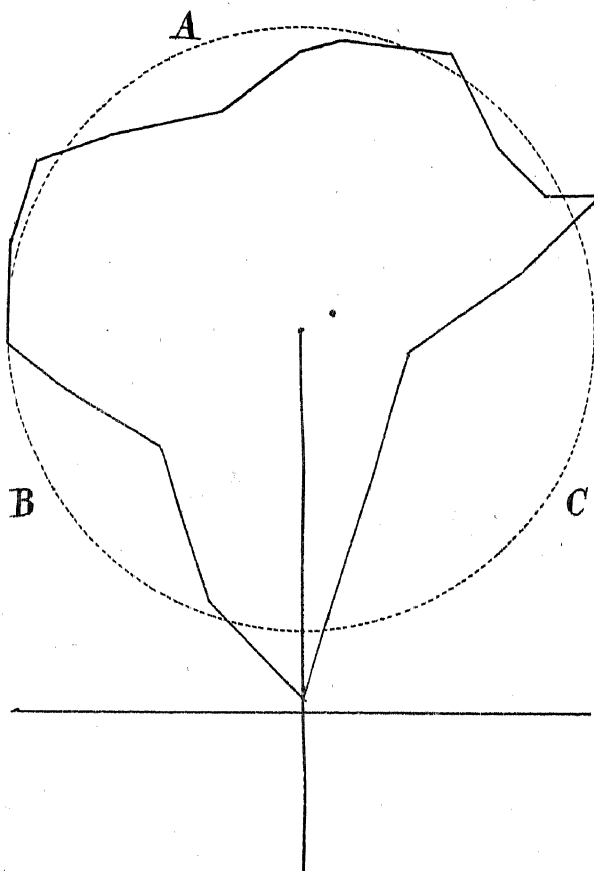
		<i>m.</i>	<i>s.</i>	
No. 1752	+	0	58,36	This has been repeatedly re-observed in 1835.
No. 2120	+	0	34,53	Presumed amount of Proper Motion.
No. 2155	—	0	23,07	Do. Do.
No. 2158	—	0	25,78	Do. Do.
No. 2351	+	0	26,22	Do. Do.
No. 2663	+	2	2,64	Greenwich confirms the Madras Result—with reference to Piazzini remark upon this Star ‡ it would appear that we have each observed the N. P. D. of the small Star, but it will I think be found that Piazzini is in Error.

‡ Præcedit 26s. temporis, alia 9^a magnitud. 2^m. circiter ad Austrum.



*Curve traced by a Dot situated .001 Inch from the Centre of the
of the Western Pivot of the Madras Transit Instrument.*

(see Page 6)



Collimation Telescope Supports. (see Page 125)

